Installation and Operating Manual

imtera technology

eneo®

Electromagnetic Compatibility (EMC)

Warning

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Manufacturer's Declaration Of Conformance

A Declaration of Conformity in accordance with the following EU standards has been made and is kept on file at the address shown on the last page.

> The manufacturer declares that the product supplied with this document is compliant with the provisions of the EMC Directive 89/336, the Low Voltage Directive LVD 73/23, the CE Marking Directive 93/68 EEC and all associated amendments.

Specifications subject to change without notice.

BEFORE YOU BEGIN

Read these instructions carefully before installing or operating this product.

Note: This equipment should be installed by a qualified service person and should conform to local and national regulations.

This manual provides installation and operation information. To use this document you must have the following minimum qualifications:

- a basic knowledge of CCTV systems and components
- a basic knowledge of electrical wiring and low-voltage electrical connections.

INTENDED USE

Use this product only for the purpose for which it was designed, as described in this manual.

ENVIRONMENTAL CONDITIONS

Storage: –10° to +60° C (14° to 140°F). The camera should be allowed to acclimatize to its operational temperature range before power is supplied. Additionally, if the camera is moved from a colder area to a warmer area, precautions should be taken to ensure that condensation is prevented.

Operational: 0° to +40° C (32° to 104°F).

PERIODIC MAINTENANCE

The camera lens should be cleaned every 6 months with a lint free cloth. The interval between cleaning is dependent on the atmosphere experienced by the camera and cleaning may need to be more frequent.

CUSTOMER SUPPORT

For assistance in installing, operating, maintaining and troubleshooting this product, please refer to this document and any other documentation provided. If you still require assistance, please contact Videor Technical at the address shown on the last page.

CONTENTS

1 PREFACE

1.1 ABOUT THIS MANUAL

This manual includes information for installers and end users of the camera and recorder such as:

- installing and configuring the camera
- using the camera to provide full situational awareness
- motion detection and tracking
- privacy zones
- presets, preset tours, and learn tours
- retrospective ePTZ.

This document is intended to provide accurate information. However, the information it contains is subject to change without notice. Videor Technical, in keeping pace with technological advances, is a company of product innovation. This makes it difficult to ensure that all the information provided here is entirely accurate and up-to-date. Videor Technical accepts no responsibility for any inaccuracies or omissions, and specifically disclaims any liabilities, loss, or risk, personal or otherwise, which is incurred as a consequence, directly or indirectly, of the use and/or application of any of the contents of this document.

1.2 CONVENTIONS USED IN THIS MANUAL

◄ means 'move joystick to the left'

► means 'move joystick to the right'

▲ means 'move joystick up'

▼ means 'move joystick down'

↻ means 'twist joystick clockwise'

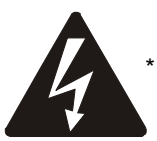
↺ means 'twist joystick anti-clockwise'.

Screen menu titles are shown thus: **`Main Menu`**.

Keyboard keys are shown thus: **MENU**.

To see how the keys mentioned in this manual map to your keyboard, please see section **8 Keyboard maps**.

WARNING statements identify potential hazards and problems that can occur if the equipment is handled improperly.



WARNING:

* Improper use of this equipment can cause severe bodily injury or equipment damage.

*this symbol indicates electrical warnings and cautions.

CAUTION statements identify issues that can cause problems with the normal operation of the equipment.

CAUTION:

** You must save all camera settings before using this feature.

**this symbol indicates non-electrical warnings and cautions.

TIP statements offer useful advice about operating the equipment.

TIP:

*** This setting can be individually controlled on each of your two video outputs.

***this symbol indicates important information.

Notes: contain important information about a product or procedure.

1.3 TRADEMARKS

All trademarks and registered trademarks that appear in this document, including (but not limited to) IMTERA™ are the property of their respective owners, details of which can be supplied by Videor Technical.

1.4 RELATED DOCUMENTS

You may need to read the **Quick Start Guide** and **Recorder Safety and Installation Manual** in conjunction with this document.

2 INTRODUCTION

It's new …

The Almira will completely change the way you think about security cameras – and the way you use them. In fact, it's like no camera you've ever seen before. The difference is in the IMTERA™ technology that drives it.

Ceiling-mounted, the Almira is almost invisible

The area below as the Almira sees it – an ultra-wide-angle view with total situational awareness

It's powerful…

The 3-megapixel, ultra-wide-angle Almira camera can see everything in the area below it, giving total situational awareness. In addition, the camera's built-in IMTERA™ technology gives you up to four separate high-resolution views of any selected areas, using what we call 'virtual cameras' or VCAMs. Frame by frame, each of these 'cameras' displays its own part of the image. The result is like looking at four individual security cameras – and you can pan, tilt and zoom each of them in any way you wish. With the recorder attached you can do this *retrospectively*, using pan, tilt and zoom to make a detailed examination of anywhere in the camera's 360° field of view.

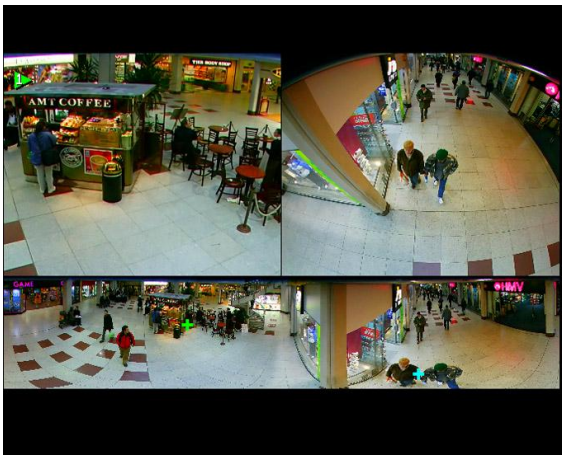
Each of four PTZ-controllable 'virtual cameras' (VCAMs) can cover any part of the image …

… and the camera's built-in IMTERA™ technology processes and displays the result – instantly.

It's versatile…

How you look at this information is up to you. You can choose a single, 360° panoramic view, combine it with the views from two virtual cameras (VCAMs), split it into two 180° views, look at an individual VCAM, show all four VCAMs on a single screen or view a quad panorama – all at the push of a button. And the same options are all available when you need to look at data stored on the recorder – giving you exactly the same control over recorded material that you have with live views.

360° view plus two VCAMs



Two 180° views

Single VCAM (with thumbnail)

360° view

Four VCAMs

Four x 90º panorama

It's flexible …

That's not all. The Almira can send all this information to two separate video outputs at the same time – and you can control each video output individually. Effectively, it's like having two individually controllable Almira cameras, one on each video output. Put the two monitors together, e.g., as inputs to a switcher, or in separate viewing rooms; the choice is yours. That's only the beginning, because the Almira is all about giving you choices – choices you can program, save, edit, and keep for future use at any time.

It's discreet …

It's hard to believe all this information comes from a single image, in a single unit – but it does. All that functionality is housed inside a case that's compact and easily concealed.

… and it's reliable

The Almira has no moving parts (not even a fan) – and mechanical failure is the most common source of problems for conventional PTZ cameras.

With its full 360° view the Almira provides full situational awareness at all times. Replacing up to four ordinary PTZ cameras, it offers a degree of functionality and flexibility beyond the dreams of conventional surveillance systems – and its unique recorder system gives you unparalleled access to stored data that no other system can hope to match.

Only IMTERA™ technology can do this.

2.1 THE CAMERA IN CONTEXT

2.1.1 INSTALLING THE CAMERA

The Almira is designed to be a direct, drop-in replacement for any existing analogue camera. In fact it could replace up to four conventional PTZ cameras and still provide full situational awareness, additional information and extra functionality. This is because:

- it covers 360°, giving complete situational awareness
- it can respond intelligently to four external alarms
- all its unique functions are housed inside the camera itself – no extra external equipment is needed
- it will auto-detect and respond to multiple standard PTZ controller protocols
- camera outputs connect directly to existing equipment – no need for special cables or connectors
- there is no special software to install – existing DVRs can also record camera output as soon as it's connected
- the optional recorder unit allows complete ePTZ of previously recorded data.

The Almira can be connected using your existing cables[1] and operated as part of an existing installation. Its unique design ensures it will do far more than any conventional PTZ camera. In fact it will add significantly to the functionality and efficiency of your security system.

2.1.2 DEPLOYING THE CAMERA

The power and flexibility of the Almira makes it suitable for a very wide range of applications.

A single ceiling- or wall-mounted Almira can provide coverage for a small convenience store:

- equivalent to five conventional PTZ cameras – and far more controllable
- each VCAM can be preset on a critical point (such as the cash register)
- easy to program a preset tour that will check every set of shelves and every cabinet in detail – while also maintaining constant 360° monitoring.
- the addition of the recorder unit allows detailed analysis of any incident within the camera's field of view after the event, using PTZ and all VCAM options, and without interrupting normal recording.

At the other end of the scale, an Almira can quickly and easily replace one or more conventional PTZ cameras in a large RS485 multi-drop network:

- full access to advanced functionality with an existing (supported) keyboard
- camera can be anywhere in the network
- ideal for particularly sensitive areas
- can replace a cluster of conventional PTZ cameras with a single discreetly concealed unit.

[1] The Almira will accept an additional analogue cable giving a second, individually controllable video output, offering even greater control and flexibility.

2.1.3 FEATURES AND BENEFITS

The Almira offers an unbeatable set of features and benefits derived from its unique IMTERA™ technology, including:

High-value installation

- wide-angle view
- unique in-camera processing
- replaces up to four conventional analogue PTZ cameras
- provides valuable extra information when an alarm is triggered
- offers complete retrospective analysis of recorded data using PTZ and all VCAM options
- improves the productivity and usefulness of your security system.

Discreet, intense surveillance

- two users can each access the camera using separate keyboards and separate video outputs
- each has access to full functionality – equivalent to five conventional PTZ cameras
- ideal for difficult locations like an entrance hall with multiple access points
- “still” option allows user to see everything happening in the camera’s field of view at a given moment
- easy switching between live camera view and recorder playback, allowing fast and efficient PTZ analysis of any recorded event.

Detects and tracks motion across the full 360°

- detects motion anywhere in its field of view – across the full 360°
- any combination of the four virtual cameras can be set to detect and track motion anywhere in the 360° field of view – automatically
- can trigger an external device through its alarm output port
- motion detection can be turned on and off at a different time each day (Monday to Sunday)
- ‘on’ and ‘off’ can be programmed at any time during the day.

Efficient, easily customized guard tours

- up to 128 programmable preset camera positions
- easy programming of ‘preset tours’
- changes and updates made in seconds – so the system is always up to date with your needs
- each VCAM can be independently set to any of four learn tours and four preset tours
- key areas can be identified with on-screen labels for faster, more accurate response.

Pixel-perfect privacy zones

- up to 75 pixel-perfect privacy zones
- tight and accurate from all angles, and in all available views
- can screen out sensitive areas, e.g., keyboards or monitors, without blanking out surrounding areas.

Unparalleled access to recorded data

- can record data for several months (for event-based recordings) or several weeks (for continuous recording) depending on user settings and lighting conditions
- records full resolution 360º sensor output
- choose continuous recording, event recording, or both
- choose frame rates from 1 to 4 frames per second and set image quality separately, as required, for both continuous and event recording
- separate operating schedules for camera and recorder
- fast zooming timeline and event searching
- full PTZ access to all recorded data for detailed, accurate analysis
- full camera functionality on all recorded images
- runs in parallel with conventional video and DVRs.

No moving parts

- low maintenance – fewer engineer visits, less disruption
- high reliability.

Easily linked to other equipment

- takes signals from up to four external devices, such as proximity or contact alarms, smoke alarms, heat sensors or IR detectors
- program the response you need – e.g., the Almira could respond to a fire alarm by pointing a virtual camera at its source, and triggering a preset tour to search for visual evidence.

3 INSTALLATION

This chapter gives you a step-by-step guide to installing the camera.

3.1 REQUIREMENTS

Operation requirements

The Almira is designed as a drop-in replacement for any conventional analogue PTZ camera. For control it requires a suitable keyboard to be connected. Any keyboard supporting Fastrax or Pelco-D RS485 protocols or the Bosch Autodome RS232 protocol can be used with the Almira. Note that controllers based on RS232 will require a third-party RS232-RS485 converter.

Cable requirements

The Almira requires one (or optionally two) video cables, and a power cable.

- The video cables should be standard 75 Ω coaxial cable
- The 12VDC cable powers the Almira – 18-14 AWG
- RS485 control protocol wires (twisted pair) – 20-16 AWG
- dedicated cable for connection to the recorder (supplied with the recorder – see separate installation guide for the recorder)

Note: The Almira will also require one cable for each external device (e.g., fire alarms, smoke alarms, klaxons or lights) that needs to be connected to the camera.

Power requirements

For optimal performance all Almira cameras should be powered from an isolated 12VDC source (using a cable shorter than 10 metres/33 ft in length), providing at least 2 Amps – fused outputs are not adequate.

WARNING

Do not connect the camera directly to the mains: this will damage the camera and could result in severe injury.

Location requirements

The ceiling mount supplied is intended for concealed mounting in ceilings with removable ceiling panels either 24 in × 24 in (or 600 × 600 mm) or 24 in × 48 in (or 600 × 1200 mm), provided there is sufficient clearance for the unit – refer to Fig. 3.3), page 19.

3.2 BEFORE INSTALLING THE CAMERA

- Check the components supplied with your camera against the list below. Be sure **nothing** is missing.
- Make sure you have all the tools needed for the installation (not supplied, but listed below).

CAUTION: Camera Orientation

The camera must be installed in a horizontal orientation with the lens facing downwards, or vertically at a maximum angle of +/-60° from the vertical ("wall-mount") with the cooling fins in a vertical orientation. **Failure to comply with these instructions will invalidate the warranty**.

3.3 CAMERA INSTALLATION CHECKLIST

Inside the box you will find the following items.

See **3.4.2 Surface-mounting the camera** for details of optional accessories for surface mounting.

Quantity	Item
1	Camera including lens
2	Metal ceiling braces
2	BNC adaptors
2	6mm/0.24in M3 Pozidriv screws
1	Plastic connector cover
1	Metal camera bracket
2	10mm/0.39in M5 button head screws
2	6mm/0.24in M3 countersunk screws
1	Allen key 1.5mm/0.06in AF
3	Cable Tie 3.5mm/0.14in
2	M5 Shakeproof Washer
1	User instruction manual
1	Quick start guide
1	Trim plate for Fujinon lens
2	48mm/1.89in M3 pillars for Fujinon lens

You will also need:

1 Power supply unit

1 Pozidriv screwdriver

1 Small flat-bladed screwdriver

1 Small screwdriver for setting dip switches

3.4 INSTALLING THE CAMERA

The camera is supplied as standard with a bracket for flush-mounting behind suspended ceiling tiles. As an option, an adjustable surface-mounting bracket is available for walls and solid ceilings.

For mounting behind ceiling tiles, read section 3.4.1, followed by section 3.4.3

For surface-mount applications, read section 3.4.2, followed by section 3.4.3

CAUTION:

You must complete steps **1)** to **8)** of section 3.4.1 [or steps **1)** to **6)** of section 3.4.2] and steps **1)** to **9)** of section 3.4.3 before supplying power to the unit. The camera requires a 12V DC power supply – this is not the same as the recorder, which requires a 24V AC or DC power supply. **Applying the wrong voltage to the camera will damage it, and will also invalidate the warranty.**

3.4.1 INSTALLING THE CAMERA IN A CEILING

The concealed ceiling mounting kit supplied is intended for ceilings with removable ceiling panels either 24 in × 24 in (or 600 × 600 mm) or 24 in × 48 in (or 600 × 1200 mm), as shown in Figs. 3.1) and 3.2).

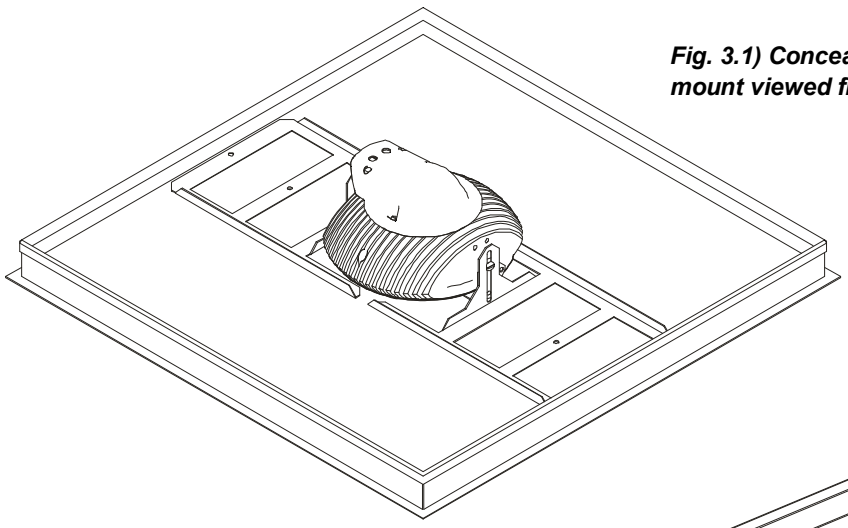


Fig. 3.1) Concealed ceiling mount viewed from above

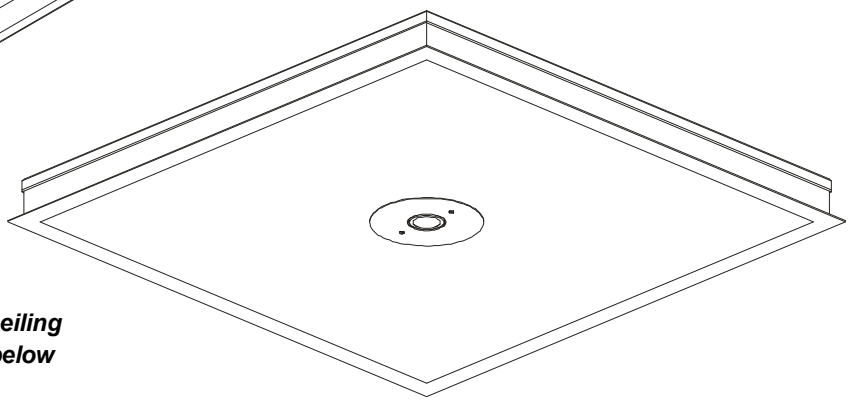
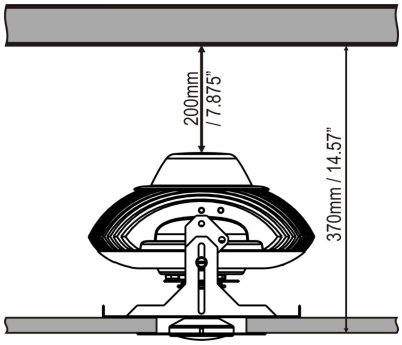


Fig. 3.2) Concealed ceiling mount viewed from below

CAUTION: Ventilation Clearance

Ensure camera has sufficient clearance when installed. Refer to Fig. 3.3)



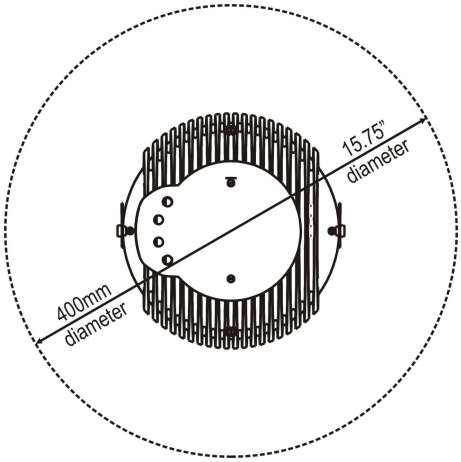


Fig. 3.3) Ventilation clearances

Refer to Fig. 3.4) for steps 1) to 3).

1) Take the camera unit and unscrew the three screws mounted around the lens.

2) Use these three screws to attach the metal camera bracket to the camera unit. **Use only the screws supplied, and be sure to fit all three screws.**

Note: some lens types must be removed to enable fitment of the camera bracket. The lens focusing process is described in section 4.1.2.

3) Fit supplied M3 pillars as indicated.

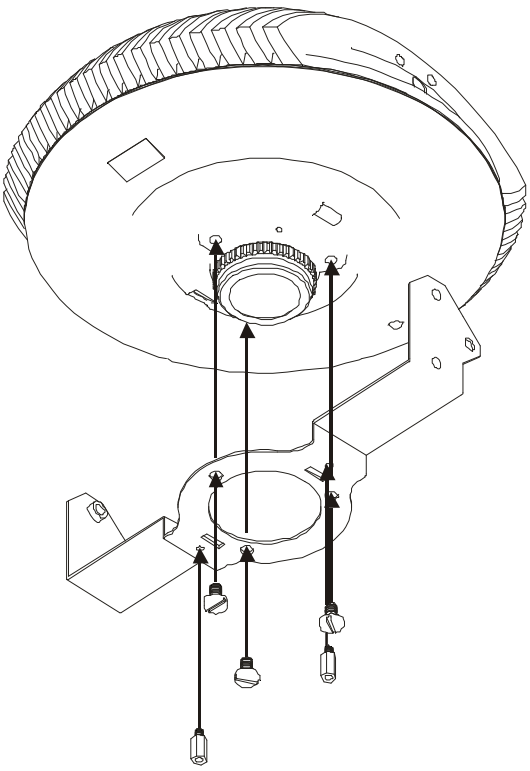


Fig. 3.4) Mounting the camera bracket

TIP:

The camera is correctly focused in the factory, but it is a good idea to test configure it and test the focus at this point, before fitting the camera to the ceiling tile. See section 3.4.3 for instructions on fitting the power, video output and keyboard connections. To set up and focus the camera please see **Focus Aid** on page 29. Disconnect again before proceeding with mounting the camera.

4) Prepare a ceiling tile by cutting a 100mm/3.94 in hole exactly in the centre as shown in Fig. 3.5), using the template supplied at the rear of this user manual.

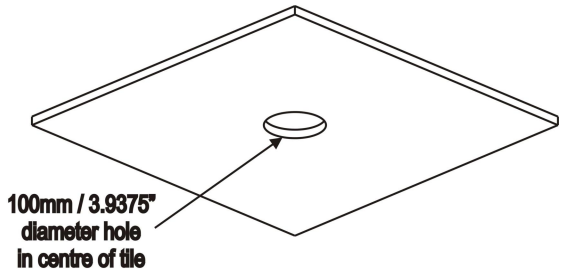
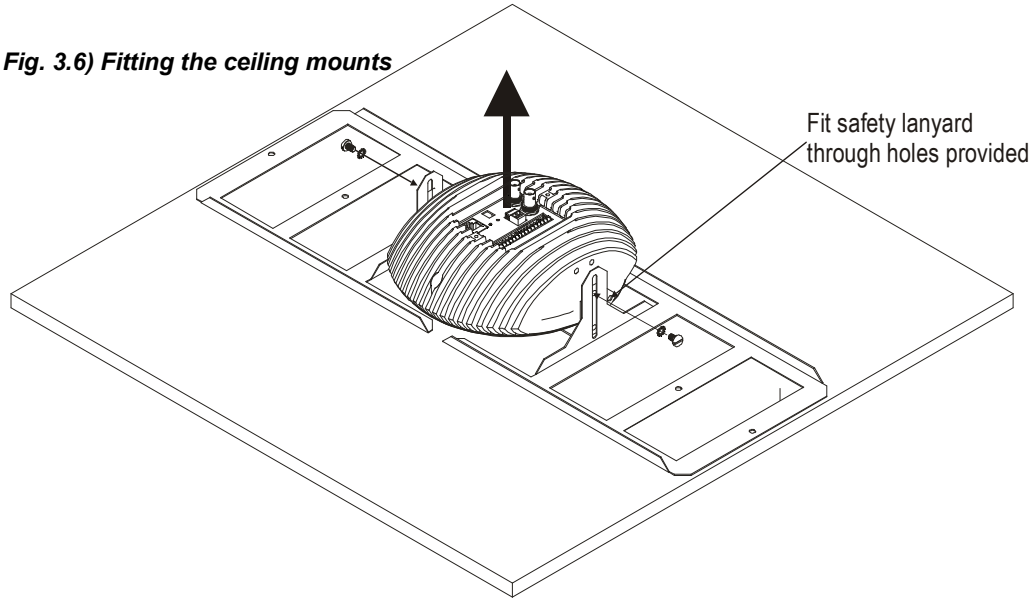


Fig. 3.5) Ceiling tile preparation

5) Attach the two ceiling mounts to the sides of the camera unit using the two 10mm/0.39in M5 button head screws and shakeproof washers supplied. **Do not fully tighten the screws.**

Fig. 3.6) Fitting the ceiling mounts



6) Position the camera with its lens centred in the hole in the ceiling tile. **Invert the ceiling tile, taking care to support the camera.** Position the trim plate and fasten it in place with the two 6mm/0.24 M3 countersunk screws supplied, as shown in Fig. 3.7).

7) Raise the camera unit so that the trim plate is flush with the ceiling tile, and then tighten the securing screws, as shown in Fig. 3.6).

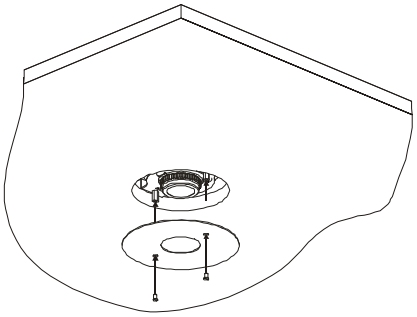


Fig. 3.7) Fitting the trim plate

8) We strongly recommend that you fit a safety wire or lanyard (not supplied). You can do this by looping it through an attachment point in the ceiling and the two holes on the ceiling mounts, as indicated in Fig. 3.6).

9) Now proceed to section 3.4.3

3.4.2 SURFACE-MOUNTING THE CAMERA

An optional adjustable bracket is available for surface-mounting the camera on walls or ceilings.

The bracket kit consists of the following items:

Description	Quantity
M5 shakeproof washer	4
Adjustable camera bracket	1
M5 x 6mm pan head pozi screw	4
5 x 30 thread woodscrew	4
Wall plug	4
BNC adaptor (right angle)	2
Connector cover (short)	1
Cable tie 3.5mm	3
Screw pan head M3x8mm	2

You will also need:

1 drill with 7mm drill bit

1 small hammer

Note that an optional lens shroud is also available for surface-mounted installations. It can be seen in Fig 3.9).

To secure the bracket to the wall or ceiling:

Place the bracket on the wall/ceiling in the required location. Alternatively, you can use the template provided at the back of this user manual. See the wall mount bracket on page 93.

1) Mark the positions of the fixing holes shown in Fig 3.8) for a solid wall/ceiling. Alternatively, mark the positions of the fixing holes shown in Fig 3.9) for fitting at the junction of a solid wall and ceiling or the corner of two walls.

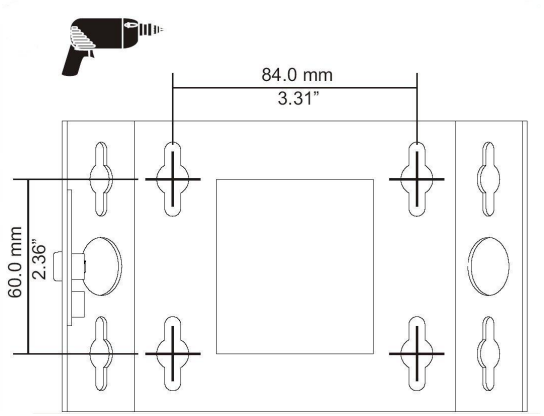


Fig 3.8) Fixings for flat surface mounting

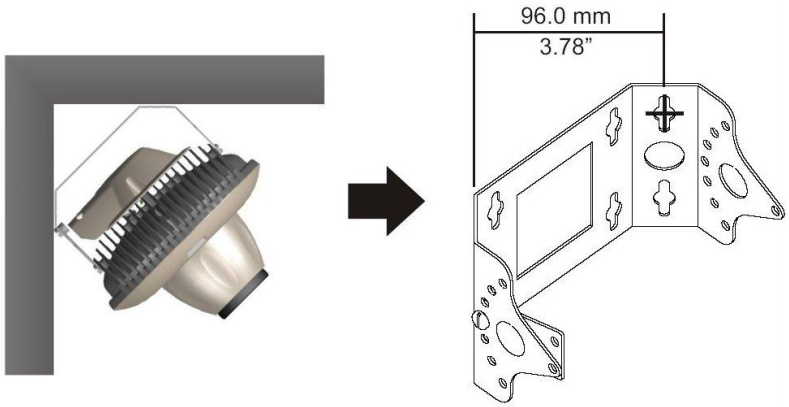


Fig 3.9) Fixings for wall-ceiling junction.

2) Remove the bracket and drill a 7mm hole in each of the marked positions.

3) Gently tap a wall plug into each hole using a small hammer.

4) Secure the bracket to the wall/ceiling using the four M5 woodscrews.

Prior to fixing the camera to the bracket, you will need to connect all required cables, set the DIP switches and fit the connector cover. These operations are described in **3.4.3 Connecting, configuring and powering the camera**. You can then carry out the remaining 3 steps, described here:

5) Fix the flat bracket plate to the main part of the bracket. This is done using one of the M5 pan head screws and shakeproof washers. It is shown in Fig 3.9)

6) You can now present the camera to the bracket and secure it using the three remaining M5 screws as indicated in Fig 3.10)

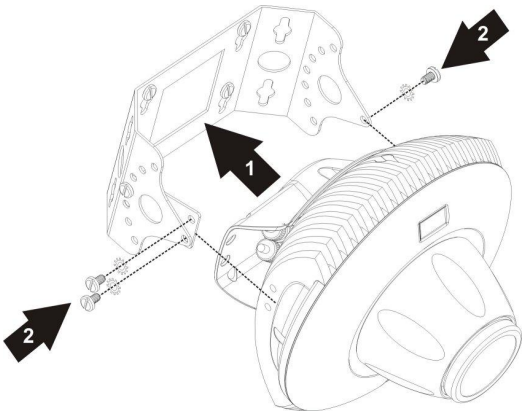


Fig 3.10) Fixing the camera to the bracket

7) Finally, you can adjust the camera to the required angle as indicated in Fig 3.11)

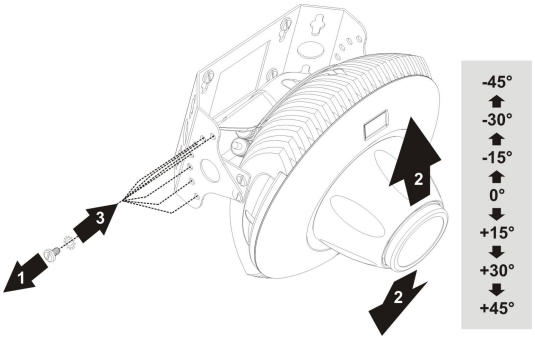


Fig 3.11) Adjusting the camera angle

TIP:

The camera is correctly focused in the factory, but it is a good idea to test configure it and test the focus at this point. See section 3.4.3 for instructions on connecting the power, video output and keyboard, which will be required for focussing. To set up and focus the camera please see **Focus Aid** on page 29.

3.4.3 CONNECTING, CONFIGURING AND POWERING THE CAMERA

1) Strip and tin any new wires that you wish to connect to the camera[2].

Refer to Fig. 3.12) for steps 1) to 6).

2) **WITH POWER OFF** remove the camera's power connector (above the **Power 12VDC** label), attach the wires from the power supply unit (ensuring they are connected with the correct polarity) and replace the power connector in the camera unit. **Do not power up the camera at this point.**

3) Connect the RS485 wiring to the **RS485** terminals on top of the camera (top left on this diagram). Ensure they are connected with the correct polarity (+ and –) to KBD- and KBD+.

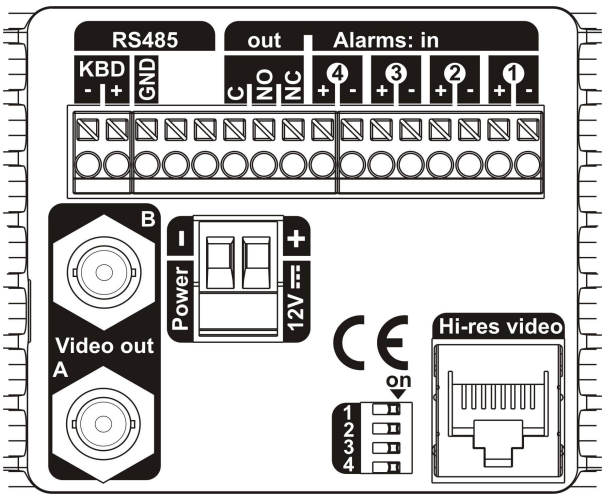


Fig. 3.12) Rear connector panel

4) If you have a recorder it needs to be connected to the **Hi-res video** terminal at bottom right: please refer to the manual supplied with the recorder.

5) Attach the two BNC elbow adaptors supplied, and use them to connect the two video outputs from the camera (**A** and **B,** bottom left on the diagram).

6) Connect any external devices you wish to link to the camera to the correct terminals on top of it.

- For external alarms connecting into the camera (**Alarm in**), make sure the input leads are connected with the correct polarity (+ and –) if this is necessary for the connecting device.
- If connecting an external device controlled by the camera (**Alarm out**), connect the incoming wires to **C** and **NC** if the circuit is normally closed, and to **C** and **NO** if the circuit is normally open.

[2] Alternatively you can fit crimp-on ends to the wires. To connect these to the camera, find the socket where the wire needs to be fitted using the diagram, press the fitment above the socket with a small screwdriver, push the wire into the socket, and release the fitment to lock the wire in place.

7) Set the dip switches on the top of the camera unit, using a small screwdriver. Refer to Fig. 3.13).

- Switches 1 and 2 should be **ON** to enable RS485 biasing, or **OFF** to disable RS485 biasing. Biasing should normally be set to **ON**.
- Switch 3 is used to enable the terminator. It should be **ON** if the Almira is the last camera in the RS485 chain or **OFF** if it is not.
- Switch 4 must be set to **OFF**.

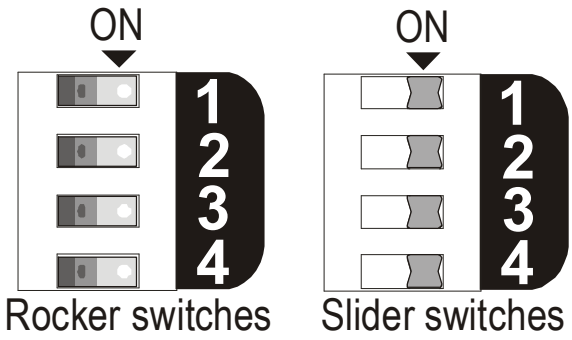


Fig. 3.13) Dip switches – supplied either with rocker or slider switches

Refer to Fig. 3.14) for steps **8)** to **9)**.

8) Fit the plastic connector cover using the two 6mm/0.24in M3 Pozidriv screws supplied.

9) Strain relief is provided by securing cables to the connector cover using the supplied cable ties threaded through holes in the cover.

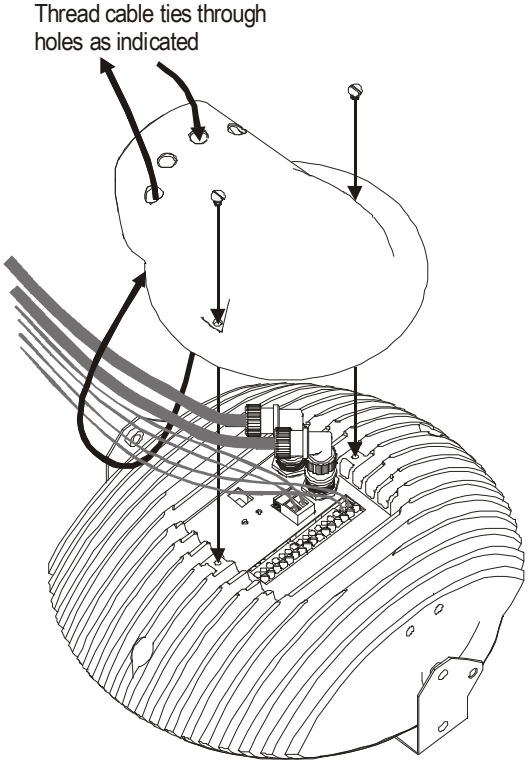


Fig. 3.14) Fitting the connector cover

10) Check that all connections are correct, and then **supply power to the camera**. Shortly after the camera starts you will see a loading screen on the monitor. For 10 seconds after the first camera view appears on your monitor you will see a black status bar showing, from left to right:

- a manufacturer's code
- ID1 and ID2 followed by numbers indicating the RS485 address of each camera head
- the software version currently operating

11) Complete the basic set-up for the camera (see **4.1.1 Configuration menu**).

12) Now switch off the power supply to the camera.

13) If ceiling-mounting the camera, replace the ceiling tile with the camera attached and turn on the power supply to complete the installation. If wall-mounting the camera, complete steps **5)** to **7)** of section 3.4.2

14) The camera is ready to be used and can be powered-up.

4 CONFIGURATION

For a quick guide to finding and navigating the menu system, see **5.2.1 Menu navigation overview**.

Now you have installed and focused the camera, you can configure it to suit your own individual needs. This chapter tells you how to do this.

CAUTION:

If you are installing more than one camera on the same network, power up the first camera and change its camera IDs before powering the next camera and so on. Alternatively, unplug the RS485 cable to all but the camera you are changing the ID on.

You can work through the menu items in any order. However, if you are adding the camera to an existing network you should probably start by changing its ID (see **4.1.4 Camera ID configuration** below). This ensures it can be controlled uniquely, without affecting other cameras in your network.

Note: When the camera is switched on for the first time, it will use Camera IDs one (1) and two (2). Camera ID 1 will show the camera menu on Analogue Video Output A; Camera ID 2 will show the camera menu on Analogue Video Output B.

To enter the menu system, press **MENU**. If a password has been set, and is active (see **4.1.6 Menu Password** on page 37), you will be asked to enter it on the first screen. Use ▶ and ◀ to find the first number you need to enter, and ▲ to enter it – a ∗ will appear on the line above. Repeat until you have entered all four, when you will be taken to the main menu screen.

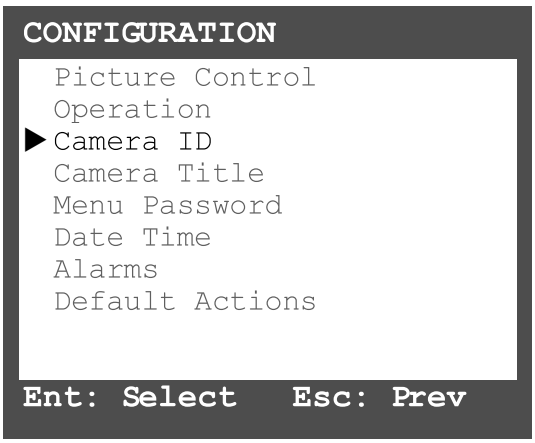
For installations where the camera is being integrated with a third-party DVR, please see **4.2 DVR Integration**.

Note: The default menu password is 1234. We recommend that you change this as soon as possible.

4.1.1 CONFIGURATION MENU

To go to the Configuration menu, press **MENU**, use ▲ and ▼ to highlight **Configuration**, then use ▶.

Using the Configuration menu, you can quickly and easily set up the camera as a key component of your network. Once you have programmed the camera IDs (see **4.1.4 Camera ID configuration** below) you can work through this menu a step at a time to have your camera up and running in a few minutes.

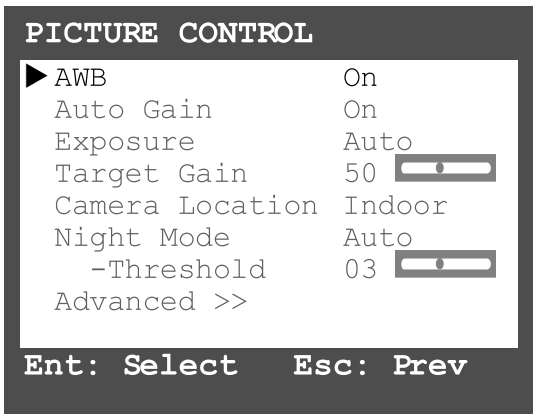


4.1.2 PICTURE CONTROL

The most frequently used items in the Picture Control menu are on the first page. Correctly set, the AWB (Auto White Balance), Auto Gain, Exposure and Target Gain controls will give you a clear, usable image. The Advanced settings allow you to further refine the results you get from the Almira.

You can also use this menu to override Auto settings, allowing custom control in special situations.

In the **Configuration** menu, use ▲ and ▼ to highlight **Picture Control**, then use ▶.



CAUTION:

Opening the **Picture Control** menu will temporarily disable VMD. This means that **neither the camera nor the recorder** will respond to VMD events until you leave the **Picture Control** menu.

Auto White Balance (AWB)

This setting automatically compensates for different types of lighting conditions e.g., daylight, artificial light etc. If AWB is switched **Off**, the image may appear too red in artificial light or too blue in daylight – though you can compensate by adjusting the colour temperature (see below, page 30).

1) Use ▲ and ▼ to highlight **AWB**, then use ▶ to move to the options.

2) Use ▲ and ▼ to select **On** or **Off**, then press ▶ to confirm your choice.

Auto Gain

Auto Gain automatically adjusts the output from the sensor to respond to changing light conditions frame by frame. In low light conditions it boosts the video signal – in bright conditions it cuts the video signal. **Auto Gain** is normally set to **On**.

To change the setting, use ▲ and ▼ to highlight **Auto Gain**, use ▶ to move to the options and then use ▲ and ▼ to make your choice. Press ▶ to confirm.

If **Auto Gain** is **On**, the third menu item will read **Target Gain**. If **Auto Gain** is **Off**, this menu option will read (and allow you to manually adjust) **Brightness**, see below.

Exposure

The **Exposure** control adjusts the amount of light falling on the camera's sensor. It is normally set to **Auto**. To change the setting, use ▲ and ▼ to highlight **Exposure**, use ▶ to move to the option menu and then use ▲ and ▼ to make your choice between **Dark**, **Normal**, **Bright**, **Daylight** and **Auto**. Press ▶ to confirm.

If **Camera Location** is set to **Outdoor** (see page 27) you will have seven additional exposure settings to choose from: **1/18200, 1/6400, 1/3200, 1/1600, 1/800, 1/400** and **1/200**. These can be used to adjust the camera so it can compensate for unusually bright sunlight or outdoor conditions.

Target Gain/Brightness

If **Auto Gain** is **On**, you can make your screen image brighter or darker by adjusting **Target Gain**. If **Auto Gain** is **Off**, you can adjust **Brightness** to achieve a similar effect. Again, aim for the best possible results in the areas you need to see most clearly.

To change the setting, use ▲ and ▼ to highlight **Target Gain** or **Brightness**, use ▶ to move to the slider, and then use ▲ and ▼ to adjust the setting up or down. Press ▶ to confirm.

Camera Location

Operating the camera indoors, with fluorescent lighting, may result in a flickering display. This is caused by short exposure times, so Camera Location is normally set to **Indoor** to suppress this. If the camera is deployed in particular situations such as

- a very brightly lit area, or
- outdoors

you will want to set Camera Location to **Outdoor** so the camera can use shorter exposures to reveal more detail.

Setting Camera Location to **Outdoor** will give you seven additional options under **Exposure** in the main **Picture Control** menu – **1/18200, 1/6400, 1/3200, 1/1600, 1/800, 1/400** and **1/200**. These options will also be available to the camera on automatic settings, allowing it to select exposures as fast as 1/18200 sec.

1) To change this setting, use ▲ and ▼ to highlight **Camera Location**, then use ▶ to move to the options.

2) Use ▲ and ▼ to switch this setting between **Indoor** or **Outdoor**, then press ▶ to confirm your choice.

Night Mode

If **Night Mode** is enabled, the camera will change its settings in low light. When available light falls to a predetermined level, the camera will change its output to a monochrome-based display, and exposure time is increased.

To change this setting, use ▲ and ▼ to highlight **Night Mode**, use ▶ to move to the option menu, and then use ▲ and ▼ to choose between **Auto** and **Disabled**. Press ▶ to confirm.

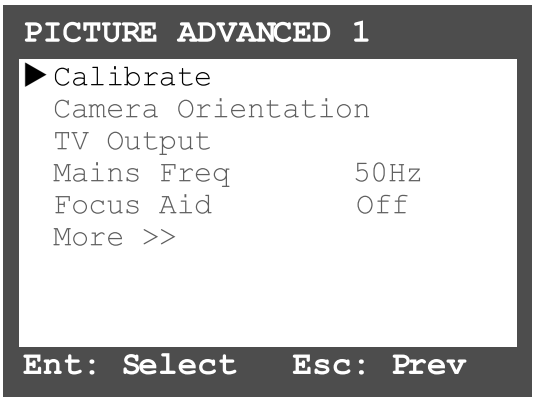
You can adjust the point where the camera switches to night mode using the **Threshold** control. The default setting is 3. If night mode is triggered when the area is still light enough for normal viewing, set the value lower. If night mode is triggered when the area is too dark for normal viewing, set the value higher.

To adjust this value use ▲ and ▼ to highlight **Threshold**, use ▶ to move to the slider, and then use ▲ and ▼ to adjust the setting up or down. Press ▶ to confirm.

Advanced

This menu gives you access to additional picture controls that will help you tailor the camera settings for more specialist installations. These settings are factory preset and will not normally need adjustment. However, you may wish to check the focus setup at the time of installation.

To change advanced settings, use ▲ and ▼ to highlight **Advanced >>**, then use ▶ to move to the next page.



Calibrate

You need to calibrate the camera when it is first set up, to ensure that you achieve the optimum settings for total situational awareness. Before calibrating the camera, check that any setting changes you have made are saved to the system (see **4.1.10 Save/Reset**).

1) To calibrate the camera, use ▲ and ▼ to highlight **Calibrate**, then use ▶ to move to the calibration screen.

2) A red circle indicates the outer edge of the lens image; the yellow circle shows the area available for navigation by a virtual camera. Use ▲▼◀▶ to move the circles as needed – this tells the camera how the image from the lens will be projected onto the sensor. Aim to line up the red circle as closely as possible with the outer edge of the image.

3) When you are satisfied with your settings, press **ENTER** to recalibrate the camera. This may take a number of seconds to complete.

4) The camera will then carry out a system restart and display a splash screen during this time.

Camera Orientation

CAUTION:

Changing this setting will reset the camera. This will remove any presets, preset tours or learn tours you have programmed into it, and any sectors, privacy zones and motion detection regions you have set up.

1) The camera defaults to assuming that it will be ceiling mounted, but this option makes it possible to mount it on a wall should you wish to do so. If this is done, you will need to change the camera orientation setting.

2) To change camera orientation, use ▲ ▼ to highlight **Camera Orientation**, then use ▶ to move to the next screen.

3) Use ▲ ▼ to select **Mount** and then use ▶ to move to the options. Use ▲ and ▼ to select the orientation of the camera (**Ceiling** or **Wall**) and then use ▶ to confirm your choice.

4) If you have chosen **Wall** a second menu option, **Wall Angle**, will appear. Use ▲ and ▼ to select Wall Angle and then press ▶ to move to the options.

5) Use ▲ ▼ to select the angle at which your camera is mounted. Any angle from **+60 degrees** (pointing down) to **–60 degrees** (pointing up) is acceptable. **0 degrees** means the camera is exactly horizontal. Press ▶ to confirm your choice.

6) When you have finished use ▲ ▼ to select the final menu option **`Save and Restart`**, and press **ENTER** to confirm. The camera will restart.

Note: the camera will take a few moments to adapt to any changes made in this menu.

TV Output (PAL/NTSC)

This setting matches the output from the camera to your video input.

1) To change this setting, use ▲ and ▼ to highlight **`TV Output`**, then use ▶ to move to the next screen.

2) Use ▲ and ▼ to highlight **`PAL`** or **`NTSC`**, then press **ENTER** to confirm your choice.

Note: the camera will perform a restart and take a few moments to adapt to any changes made in this menu.

Mains Freq (50/60Hz)

You should match this setting to the mains frequency used for the lighting (50 Hz or 60 Hz). This will ensure there is no 'beating' effect in vision when the camera is in use.

1) To change this setting, use ▲ and ▼ to highlight **`Mains Freq`**, then use ▶ to move to the options.

2) Use ▲ and ▼ to highlight **`50Hz`** or **`60Hz`**, then press ▶ to confirm your choice.

Focus Aid

TIP:

If VMD is active, you will need to temporarily disable this before focussing the camera.

Now your camera is producing a clear image, you can check the focus. To switch on this feature, use ▲ and ▼ to highlight **`Focus Aid`**, then use ▶ to move to the options.

1) Use ▲ and ▼ to highlight **`On`**, then press ▶ to confirm your choice.

2) With Focus Aid switched on, move out of the menu system (by pressing the **MENU** key). Select a full-screen virtual camera by using the **FAR** key (see **5.1 Basic camera operation)**.

3) Use ▲▼◀▶ ↻ and ↺ to move the camera to an area where there are plenty of straight-edged objects (for instance, bookshelves, a row of monitors, or a set of in-trays). Zoom in almost to full zoom and make sure there is no movement in the scene being viewed.

4) Remove the plastic lens shroud if one has been fitted.

Note: Some lenses are fixed in place using grub screws. Loosen the grub screws first, if required, using the supplied Allen key. If the camera is fitted with a tension spring at the base of the lens, you do not need to loosen nor later tighten the grub screws.

5) Twist the camera lens gently – do not force it. As you turn it, and focus improves, the number in the top right of the screen will increase. If the focus is getting worse, the number will decrease. Adjust the lens until the number is as high as possible. If applicable, tighten the grub screws to secure the lens in place and refit the lens shroud.

Note: the software used for the **Focus Aid** function is sophisticated and sensitive to changes in the real world, so it is quite normal for the number to change slightly even when the lens is not being moved.

6) Return to the menu system and remember to turn off Focus Aid.

Note: The focus aid facility will automatically turn off after 30 minutes.

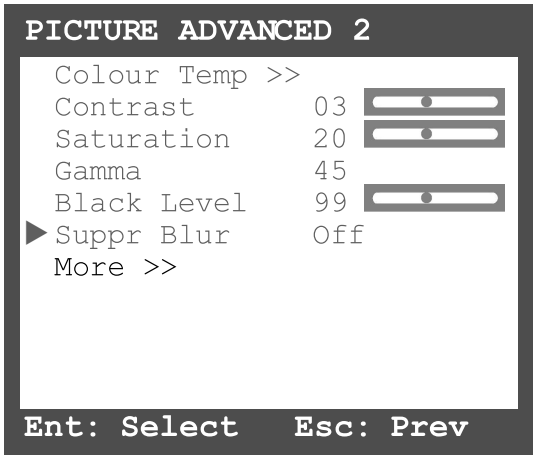
7) Now save your settings. In the main menu, use ▲ and ▼ to highlight **Save & Reset**, press ▶, then use ▲ and ▼ to highlight **Save Settings Now.** Press **ENTER** to confirm.

CAUTION:

If Focus Aid is not turned off after use, it will noticeably slow the camera's response to other menu commands and reduce the frame rate.

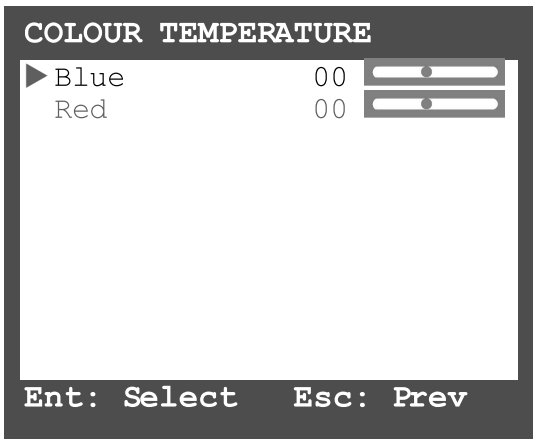
More

To go to the next page, use ▲ and ▼ to highlight **More >>**, then use ▶ to move on. The settings here will allow you to make further refinements to the image appearing on your video output, as required.



Colour Temperature

These settings allow you to adjust the amount of red and blue in the camera image to give a clearer and/or more realistic rendition of the area covered by the lens, or to match the output from other cameras.



1) In the **Picture Advanced 2** menu, use ▲ and ▼ to highlight **Colour Temp**, then use ▶ to move to the **Colour Temperature** menu (right).

2) In the **Colour Temperature** menu use ▲ and ▼ to select **Blue**, then press ▶ to select the slider.

3) Use ▲ to increase the blue value anywhere up to 10 (the default is 0), or ▼ to lower it anywhere down to –10.

4) Press ▶ to confirm your choice.

5) Repeat steps **2)** to **4)** for the **Red** setting to achieve the results you want.

Contrast

The **Contrast** setting adjusts the range of shades available between the brightest and darkest parts of the image.

Increasing contrast will make dark areas appear darker and light areas appear lighter, but intermediate shades will be less accurate. This can be useful in evenly lit areas where detail might otherwise be lost.

Decreasing contrast can help to resolve more detail when there are both very dark and very light areas within view of the camera.

1) In the **Picture Advanced 2** menu use ▲ and ▼ to select **Contrast**, then press ▶ to select the slider.

2) Use ▲ to increase the contrast value anywhere up to 7 (the default is 3), or ▼ to lower it anywhere down to 0.

3) Press ▶ to confirm your choice.

Saturation

The **Saturation** setting adjusts the richness and depth of colour displayed on the monitors: useful if you need to match output from other equipment. A high setting will give very strong, rich colours – a low setting will produce very muted colours.

In the **Picture Advanced 2** menu use ▲ and ▼ to select **Saturation**, then press ▶ to select the slider.

1) Use ▲ to increase the contrast value anywhere up to 40 (the default is 20), or ▼ to lower it anywhere down to 10.

2) Press ▶ to confirm your choice.

Gamma

Adjust gamma upwards to bring out more detail in dark areas. *Only* dark areas will be affected by this setting. The default setting is 0.45.

1) Use ▲ and ▼ to highlight **Gamma**, then use ▶ to move to the options.

2) Use ▲ and ▼ to change the value up or down, then press ▶ to confirm your choice.

Black level

The camera's black level is the voltage level at which output is displayed as black on your monitor. Adjusting it will change this level, and will also affect the brightest parts of the image (e.g. making whites appear whiter). Under normal circumstances there should be no need to change the default settings (110 for PAL, 131 for NTSC). However, you may wish to match output from the other cameras on your system, or have specific technical reasons for changing this setting.

The lowest available setting is 55, and the highest 208.

1) Use ▲ and ▼ to highlight **`Black Level`**, then use ▶ to move to the slider.

2) Use ▲ and ▼ to change the value up or down, then press ▶ to confirm your choice.

CAUTION:

Changing this setting will take the camera outside normal PAL/NTSC specifications. This will make it unsuitable for broadcasting, and could also have the effect of shortening monitor life.

Suppress Blur

When lighting conditions are poor the camera will set longer exposures to capture as much detail as possible. This will tend to cause motion blur as people or objects move past the camera. Switching **`Suppr Blur`** to **`On`** will reduce blurring by setting shorter exposures (which will give you crisper images in return for less brightness and more noise).

1) To change this setting, use ▲ and ▼ to highlight **`Suppr Blur`**, then ▶ to move to the options.

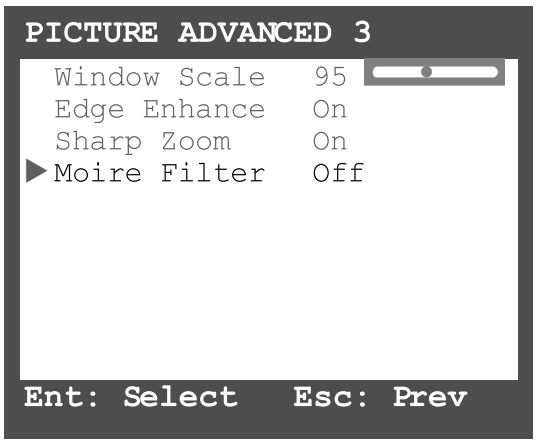
2) Use ▲ and ▼ to switch this setting **`On`** or **`Off`**, then press ▶ to confirm your choice.

TIP:

If you have a recorder attached to your camera, we recommend that you set **`Suppr Blur`** to **`On`**. This will give you crisper images on playback.

More

To go to the next page, use ▲ and ▼ to highlight **`More >>`**, then use ▶ to move on. The settings here will allow you to make further refinements to the image appearing on your video output, as required.



Window Scale

Use this setting to adjust the size of the video image as it appears on your video output. Move the values up or down until the image is as large as possible without crowding out the menu titles.

TIP:

This setting can be individually controlled for each of two video outputs connected to the camera. So if, for example, video output 1 is linked to Video ID 01 (see **4.1.4 Camera ID configuration**) then you should select this Video ID by pressing **1** and then **CAMERA**. Press **MENU**, go to the **`Picture Advanced 3`** menu and then follow the steps below. When you have finished programming Video ID 01 press **MENU** to leave the menu system, press e.g., **2** and then **CAMERA** to select Video ID 02, and then re-enter the menu system to set the window scale for this Video ID.

1) Use ▲ and ▼ to highlight **`Window Scale`**, then use ▶ to move to the slider.

2) Use ▲ and ▼ to change the value up or down, then press ▶ to confirm your choice.

Edge Enhance

This setting changes the way the camera operates at high zoom settings. If Edge Enhance is switched off, close-up images are smoothed. With Edge Enhance switched on, the edges appear sharper, helping to resolve detail in critical areas.

Before changing this setting, you should choose a full-screen virtual camera and zoom fully in on an area that shows plenty of fine detail to see the difference.

1) Use ▲ and ▼ to highlight **Edge Enhance**, then use ▶ to move to the options.

2) Use ▲ and ▼ to select **`On`** or **`Off`**, then press ▶ to confirm your choice.

Sharp Zoom

This setting changes the way the camera operates at high zoom settings. If Sharp Zoom is switched on, individual pixels become visible. If it is switched off the image is smoothed, and will therefore appear to be less sharp.

Before changing this setting, you should choose a full-screen virtual camera and zoom fully in on an area that shows plenty of fine detail to see the difference.

1) Use ▲ and ▼ to highlight **Sharp Zoom**, then use ▶ to move to the options.

2) Use ▲ and ▼ to select **`On`** or **`Off`**, then press ▶ to confirm your choice.

Moiré Filter

Normally the moiré filter is turned **`Off`**, to ensure that the image on the monitor is as crisp as possible. In most cases there is no need to alter this setting. However, if you encounter unusual lighting conditions this may cause the camera sensor to generate moiré patterns on the output. If these are intrusive it may be useful to turn moiré filtering **`On`**.

When the filter is turned **`On`**, moiré patterns are removed by what appears as a slight softening of focus.

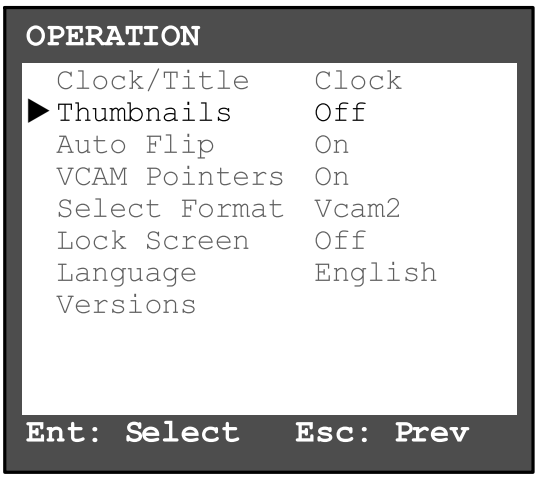
1) Use ▲ and ▼ to highlight **Moire Filter**, then use ▶ to move to the options.

2) Use ▲ and ▼ to select **`On`** or **`Off`**, then press ▶ to confirm your choice.

4.1.3 CONFIGURATION: OPERATION

This menu deals with the operation of the camera, and some of the additional features available on the Almira.

In the **Configuration** menu, use ▲ and ▼ to highlight **Operation** and then use ▶.



Clock/Title

This option sets the display at the bottom of the monitor screen to show the time, the camera title, or neither. The title is set using the **Camera Title** option (see **4.1.5** below).

1) Use ▲ and ▼ to highlight **Clock/Title**, then use ▶ to move to the setting.

2) Use ▲ and ▼ to select **Clock**, **Title** or **None**, then press ▶ to confirm your choice.

TIP:

This setting can be individually controlled for each of two monitors connected to the camera. So you could have the time on one video output and a title on the other.

Thumbnails

Switching on **Thumbnails** places a small image showing a full 360° view at the bottom and centre of your screen when you have any individual VCAM selected. This can be extremely useful if you want to maintain full situational awareness at all times.

Use ▲ and ▼ to highlight **Thumbnails**, then ▶ to move to the options. Use ▲ and ▼ again to turn thumbnails **On** or **Off**. Press ▶ to confirm your choice.

TIP:

This setting can be individually controlled for each of two monitors connected to the camera.

Auto Flip

Auto Flip will perform an instant 180° pan operation when the camera passes through 180° azimuth (i.e., pointing straight out if it is wall mounted, or pointing straight down if it is ceiling mounted), just like a standard mechanical PTZ dome camera.

Use ▲ and ▼ to highlight **Auto Flip**, then ▶ to move to the options. Use ▲ and ▼ again to turn auto flip **On** or **Off**. Press ▶ to confirm your choice.

VCAM Pointers

If VCAM pointers are turned on, then small + signs will appear on all 360° and 180° formats to indicate where the VCAMs are pointing. Each VCAM is colour-coded, and each pointer will show the appropriate colour as follows.

VCAM 1 – green

VCAM 2 – cyan

VCAM 3 – magenta

VCAM 4 – yellow

Use ▲ and ▼ to highlight **VCAM Pointers**, then ▶ to move to the options. Use ▲ and ▼ again to turn pointers **On** or **Off**. Press ▶ to confirm your choice.

Select Format

This control can be used to change screen formats (e.g., if **FAR** is not available on your keyboard).

Use ▲ and ▼ to highlight **Select Format**, then ▶ to move to the options list. Use ▲ and ▼ again to choose the format you want. Press ▶ to confirm your choice.

Lock Screen

This control can be used to lock an output to the current format.

Use ▲ and ▼ to highlight **Lock Screen**, then ▶ to move to the options list. Use ▲ and ▼ again to select **on** or **off**. Press ▶ to confirm your choice.

Language

Use this menu option to select the language for configuration and operation of the camera.

Use ▲ and ▼ to highlight **Language**, then ▶ to move to the options list. Use ▲ and ▼ again to choose the language you want. Press ▶ to confirm your choice. Your language choice will be adopted immediately by the menu system.

Versions

Versions gives you a screen display showing the various version numbers of key software within the camera. You will need this information if you are calling the service helpline (see page 4).

Use ▲ and ▼ to highlight **Versions**, then ▶ to display your version numbers.

4.1.4 CAMERA ID CONFIGURATION

CAUTION:

If you are installing more than one camera on the same network, power up the first camera and change its camera ID before powering up the next camera, and so on.

Unlike conventional cameras, this camera can be controlled by two users at the same time, each with their own individual video output.

For example, if user 'Andy' wants to look at VCAM 1 and user 'Rachel' wants to look at a panorama, each can do so at the same time without affecting the image on the other's video output.

To achieve this functionality, the camera can be programmed with two unique IDs: Screen 1 ID and Screen 2 ID. These represent video outputs A and B respectively.

In multi-Almira installations you need to set the IDs before the cameras are added to the network. Alternatively you can switch off all the cameras, then switch them back on, one at a time, starting with the Almira that will have the highest ID number. Set its ID, and then switch on the next Almira.

CAUTION:

When you change the camera ID, be sure to switch the keyboard over to the new ID after leaving the menu system by keying in the new value for the Video ID followed by **CAMERA**.

1) In the **Configuration** menu, use ▲ and ▼ to highlight **Camera ID** and then use ▶.

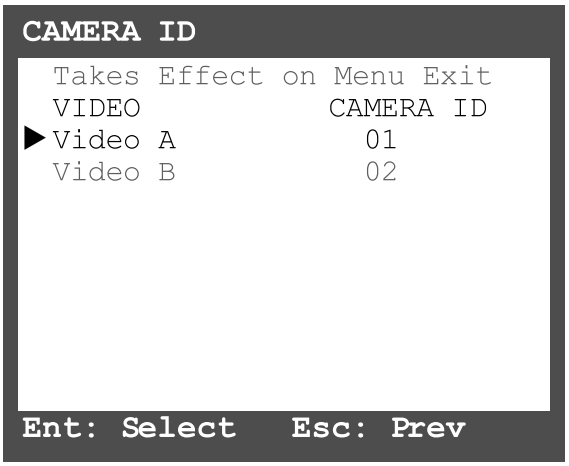
2) Use ▲▼ to highlight the Video ID you want, then use ▶ to select it.

3) Now use ▲▼ to change the Video ID to a new value. This value must be the same as the number you normally key in to control this camera output.

4) To accept the new ID, use ▶. To cancel, use ◀.

5) Repeat steps **2)** to **4)** for the other Video ID.

6) Use ◀ again to leave this sub-menu.



7) The camera ID will change as soon as you exit the menu, and is effective immediately. If you are unsure of whether your keyboard supports IDs as high as the camera, always leave one ID at 1 whilst testing the other ID. That way you will have a way back into the camera.

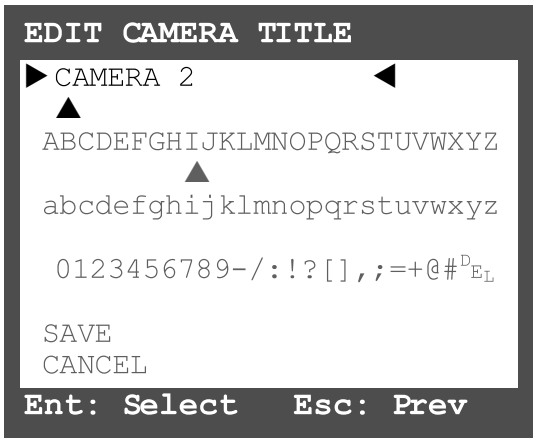
4.1.5 CAMERA TITLE

The camera title will appear on screen if you have chosen this option in the **Configuration: Operation** menu (see **4.1.3** above). A title can help identify the Almira in a large bank of monitors, and in installations using different camera types.

1) In the **Configuration** menu, use ▲ and ▼ to highlight **Camera Title**, then ▶ to go to the next screen.

2) Use ◀ and ▶ to move the pointer left and right along the existing title (if there is one) and place it under the character you want to change, or the space where you want to add a new character. Press ▼.

3) Use ▲ ▼ ◀ ▶ to find the character you want to insert, then press **ENTER** to add or change your chosen character. The title cursor will automatically move to the next position.



4) Repeat steps **2)** and **3)** for all the characters in your chosen title.

5) When you have finished, use ▼ to highlight **SAVE** (bottom of screen), and press **ENTER** to confirm. This takes you back to the **Configuration** menu.

4.1.6 MENU PASSWORD

Refer to **8 Keyboard maps** or the manual supplied by your keyboard manufacturer to find out how to call up the Menu screen.

CAUTION:

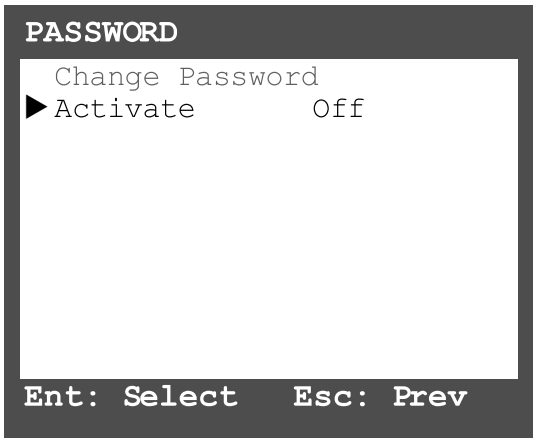
Be sure you can remember the password you choose. If you make a mistake, or lose your password, our helpline can provide a temporary 'back door' password that will let you back into the menu system.

The default password is 1234. We recommend that you change this as soon as possible.

1) To change the password, go to the **Configuration** menu, use ▲ and ▼ to highlight **Menu Password**, then ▶ to go to the **Password** screen.

2) Use ▲ and ▼ again to highlight **Change Password**, then ▶ to move to the next screen.

3) Use ◀ and ▶ to move along the row of numbers, and ▲ to select the one you want. Create a four-number password. Make a careful note of the numbers you choose – they will not be visible on screen.



4) When you have chosen four numbers, you will see a screen prompt asking you to enter them again. Once you have done this, you will be taken back to the previous screen and a message will appear along the bottom of screen indicating if the password change has been successful.

5) Use ▲ and ▼ to highlight **Activate**, ▶ to move to the options, and ▲ and ▼ to select **On** or **Off**. Press ▶ to confirm your choice. If you select **Off**, a password will not be required to get into the camera's menus.

Note: Recorder password-protection also follows these settings (see **6.6.1 The Playback Screen**).

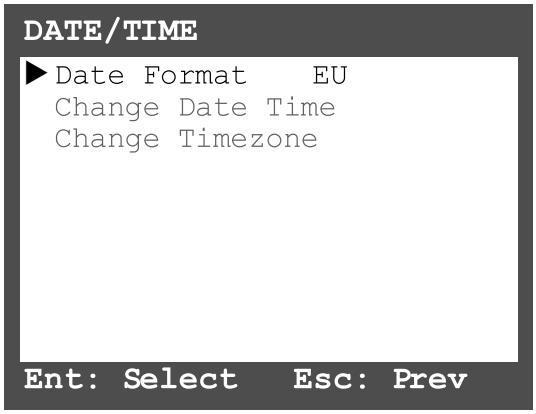
4.1.7 TIME AND DATE

Use this function to set the correct time and date. These will be displayed on screen if you have switched on the Clock Display (see **4.1.3Configuration: operation**).

NOTE: The time and date cannot be edited if NTP time support has been enabled. The camera will display a message to this effect if you attempt to do this. In order to edit the time and date, first disable NTP time support. See **Network settings** on page 76.

1) In the **Configuration** menu, use ▲ and ▼ to highlight **Date Time**, then ▶ to go to the next screen.

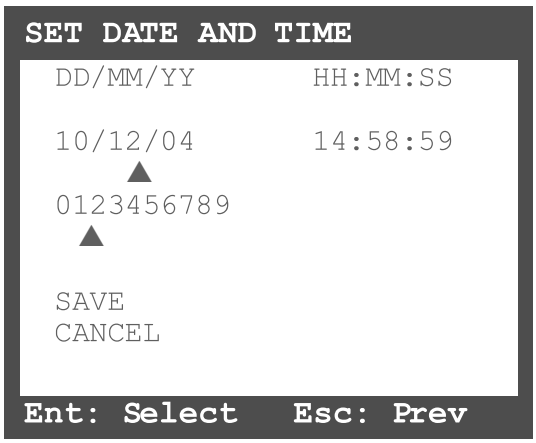
2) Use ▲ and ▼ to select **Date Format**, then ▶ to move to the option menu. Use ▲ and ▼ to select EU date format (DD:MM:YY), US format (MM:DD:YY) or ASIA format (YY:MM:DD). Use ▶ to confirm your choice.



3) Use ▲ and ▼ to select **Change Date Time**, then ▶ to move to the next screen.

4) Dates are in the format you chose in the previous menu, and time is shown as HH:MM:SS using a 24-hour clock. Use ▲ and ▼ to move between the date and time display (above) and the number menu (below). Use◀ and ▶ to move left and right along these displays.

5) Use ◀ and ▶ to move the pointer along the date and time display to the first number you want to change. Use ▼ to move down to the number menu.



6) Use ◀ and ▶ to find the number you need. Press **ENTER** to confirm your choice. The date/time pointer will advance one step automatically.

7) Repeat steps **5)** and **6)** until you have entered the correct time and date.

8) Use ▼ to highlight **SAVE** (bottom of screen), and press **ENTER** to confirm. You will be taken back to the **Date/Time** menu.

TIP:

If you are setting the date and time for the very first time, begin by using **Change Timezone** (see below) to check that the Region and City/Area settings are correct. Set the time and date only when you have checked and saved the correct time zone settings.

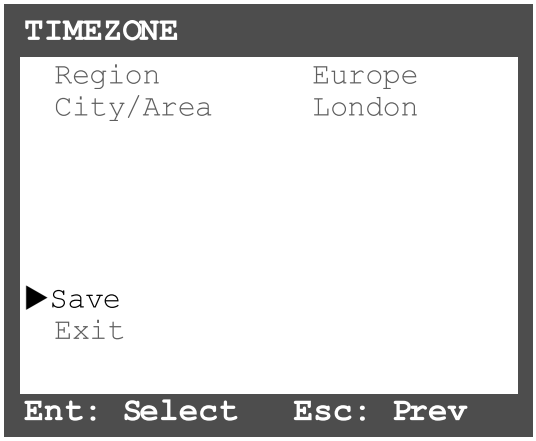
It is also possible to change the time zone settings for the camera. This will automatically change the time and date settings as necessary. To change the time zone settings from the Date/Time menu:

1) Use ▲ and ▼ to select **Change Timezone**, then ▶ to move to the next screen.

2) Use ▲ and ▼ to select **Region**, then ▶ to move to the option menu. Use ▲ and ▼ to select the correct region then ▶ to confirm your choice.

3) Use ▲ and ▼ to select **City/Area**, then ▶ to move to the option menu. Use ▲ and ▼ to select the correct city or area then ▶ to confirm your choice.

4) If the time zone details are correct, use ▲ and ▼ to select **Save**, then ▶ to save your new settings.



4.1.8 ALARMS

This menu lets you configure the way the Almira connects to external alarms and other devices such as DVRs. In the Configuration menu, use ▲ and ▼ to highlight **Alarms**, and then ▶ to go to the next screen.

Use ▲ and ▼ to select **Alarm Inputs** or **Alarm Outputs**, and then ▶ to go to the next screen.

Alarm Inputs

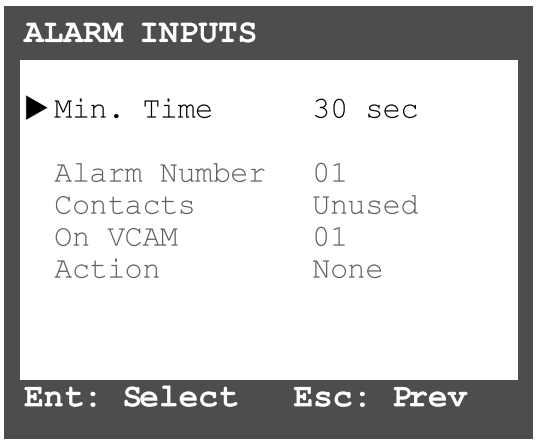
The Almira can detect its own internal alarms and up to four external alarms. When setting alarm inputs, it's important to understand how the Almira deals with different types of alarm.

- If an internal alarm is triggered (e.g. by motion detection), the camera will give this priority over any other alarm.
- If no internal alarm is active, the camera will respond to an external alarm according to the settings you have programmed.
- If more than one external alarm is triggered, the camera will give priority to the most recent one.

1) First ensure that your external alarms are properly connected to the camera's inputs (see **3.4.3 Connecting, configuring and powering the camera**).

2) In the **Alarms** menu, use ▲ and ▼ to highlight **Alarm Inputs**, then ▶ to go to the next screen.

3) On the **Alarm Inputs** screen, the first option – **Min. Time** (minimum time) – controls the camera's response to external alarms. If set to 30 sec, the camera will extend any external alarm signal that it receives, however short, to a minimum of 30 seconds. This is a global setting covering all external alarms.



4) Use ▲ and ▼ to highlight **Min. Time**, ▶ to move to the options, and ▲ and ▼ to change the value up or down. Then press ▶ to confirm.

The other settings on this page apply to each of the four available external alarm connections. They tell the camera how the external alarm is configured, and how the available virtual cameras should respond to a signal from this alarm.

5) In the **Alarm Inputs** menu, use ▲ and ▼ to highlight **Alarm Number**, ▶ to go to the options, and ▲ and ▼ to select the input you want to program. Press ▶ to confirm your choice.

6) Now use ▲ and ▼ to highlight **Contacts** and ▶ to go to the options. If the contacts on this external alarm are normally open, select **N/O**. If they are normally closed, select **N/C**. Select **Unused** if nothing is connected to this input.

7) Next use ▲ and ▼ to highlight **On VCAM** and ▶ to go to the options. Use ▲ and ▼ to select the virtual camera you want to program. Press ▶ to confirm.

8) Now use ▲ and ▼ to highlight **Action** and ▶ to go to the options.

- Choose **Preset** to move the camera to a selected preset when the alarm is raised.
- Choose **Tour** to start a preset tour when the alarm is raised.
- Choose **Learn** to start a learn tour when the alarm is raised.
- Choose **None** if you do not wish this virtual camera to respond to the alarm.
- The next menu item will change according to your selection. Use ▲ and ▼ to highlight it, ▶ to go to the options and ▲ and ▼ to set the option you want. Press ▶ to confirm.

9) Repeat steps **7)** and **8)** for the other virtual cameras, if necessary. You can program each of the four VCAMs to respond in a particular way to a single external alarm input.

10) Repeat from step **5)** for additional alarms.

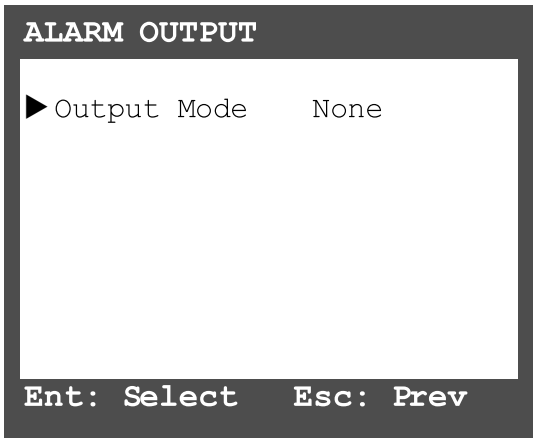
Alarm output

You will probably find it useful to connect an external device (e.g., DVR, or a flashing light and/or a warning klaxon) that can respond when the camera's internal alarm is triggered or an external alarm connected via one of the alarm inputs is triggered.

1) Ensure that the device has been connected to the camera's external alarm output (see **3.4.3 Connecting, configuring and powering the camera**).

2) In the **Alarms** menu, use ▲ and ▼ to highlight **Alarm Output**, then use ▶ to go to the next screen.

3) Use ▶ to go to the options, and use ▲ and ▼ to choose **Moment** or **Transp**, to match the type of output your device expects to receive (**Moment** for a momentary high followed by a low, or **Transp** to follow the alarm input signal). Choose **None** to cancel an existing setting. Press ▶ to confirm your choice.



Recorder Fault

In the event that the recorder becomes disconnected or faulty, the camera will report the fault on the video output. If you normally have an unmanned or un-viewed video output the camera can also trigger its alarm output if you wish.

Use ▲ and ▼ to select **Rec. Fault** and then ▶ to go to the options. Select **Screen Only** to be alerted on the video output only or select **Scr+Alm O/P** to be alerted on the video output and for the camera to trigger the alarm output. Press ▶ to confirm your choice.

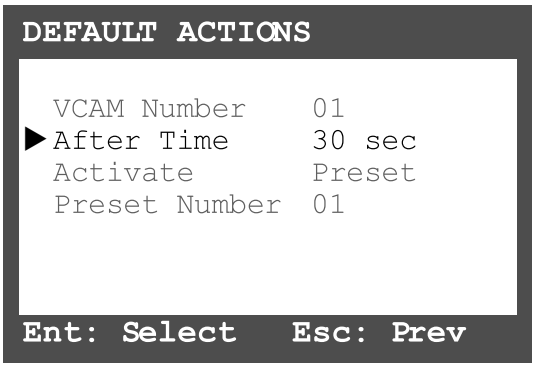
4.1.9 DEFAULT ACTIONS

You can program each of the four virtual cameras to carry out various tasks when the camera first powers up, or when it has been idle for a length of time of your choosing.

1) In the **Configuration** menu, use ▲ and ▼ to highlight **Default Actions**, and use ▶ to go into the menu.

2) Use ▲ and ▼ to select **VCAM Number**, use ▶ to move to the options, then use ▲ and ▼ again to choose the virtual camera you want to program. Press ▶ to confirm your choice.

3) Now use ▼ to highlight **After Time**, ▶ to go to the options, and ▲ and ▼ to choose the delay time before your program starts. Press ▶ to confirm your choice.



4) Next use ▼ to highlight **Activate**, use ▶ to go to the options, and use ▲ and ▼ to choose the response you want. You can select **Preset**, **Tour**, **Learn** or **None**. Press ▶ to confirm your choice. The next menu item will change according to your selection. Use ▲ and ▼ to highlight it, ▶ to go to the options and ▲ and ▼ to set the option you want. Press ▶ to confirm.

5) Repeat steps **2)** to **5)** for each virtual camera you want to program.

TIP:

In normal operation mode, you can press **UNATTENDED MODE** at any time to carry out the default actions you program here.

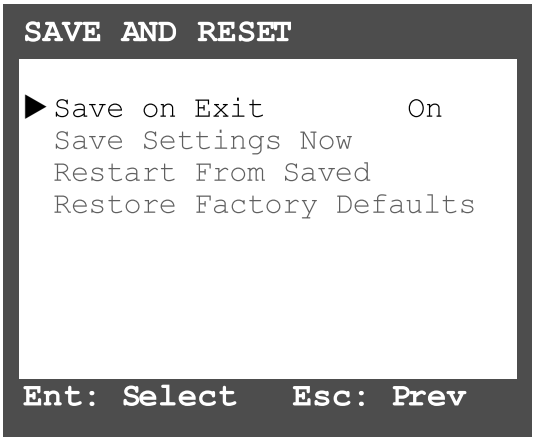
4.1.10 SAVE/RESET

This menu offers various options for saving the settings you have created in your menu session, or for resetting the camera to its factory defaults.

Settings made during a menu session become active immediately – but if they are not saved, and the camera is reset, all your changes will be lost. These options ensure that your work is saved permanently to the camera's memory.

1) In the main menu, use ▲ and ▼ to highlight **Save/Reset**, and ▶ to go to the next screen.

2) If you want your menu changes saved whenever you leave the menu, use ▲ and ▼ to highlight **Save on Exit**, ▶ to go to the options, and ▲ and ▼ to select **On**. Press ▶ to confirm. There will be a short delay when exiting the menus while the camera commits this information to permanent storage – this is quite normal.



3) If you want your menu changes saved immediately, use ▲ and ▼ to highlight **Save Settings Now,** and **ENTER** to confirm – **(Settings Saved)** will appear at the bottom of the screen.

4) If you want to restart the camera without saving your latest menu changes, use ▲ and ▼ to highlight **Restart From Saved** and **ENTER** to confirm. The camera will restart using the last previously saved settings.

5) If you want to restore the factory defaults, use ▲ and ▼ to highlight **Restore Factory Defaults,** and **ENTER** to confirm. You will be shown a confirmation screen asking you to confirm your choice. **The Camera ID and Date/Time settings will not be affected by this operation**.

CAUTION:

If you restore the factory defaults you will lose all your configuration settings, as well as all your presets, preset tours and learn tours. You will also lose any privacy zones, motion detection regions and sectors that you created, and the camera will default to its ceiling-mounted mode. If you do *not* want to do this, press ◀, **ESC** or **MENU**. If you are happy to continue, press **ENTER** again.

4.2 DVR INTEGRATION

The camera is designed to integrate seamlessly with industry-standard DVRs in the same way as any standard analogue CCTV camera. All of the camera functions, including ePTZ, the menu system and recorder-related functions like playback and retrospective ePTZ are available to the operator regardless of whether control is carried out via a DVR or not.

An additional benefit may be realised if the camera is connected to a LAN-enabled DVR. This will allow remote viewing of the camera's output via a network and/or the Internet.

4.2.1 ACCESSING CAMERA MENUS FROM A DVR

For DVRs which do not make provision for accessing the camera menu system, this may be achieved by pressing **ZOOM OUT** closely followed (within 0.5 seconds) by **OPEN**.

5 OPERATION

This chapter explains how to operate the camera, and how to use and activate its main features.

5.1 BASIC CAMERA OPERATION

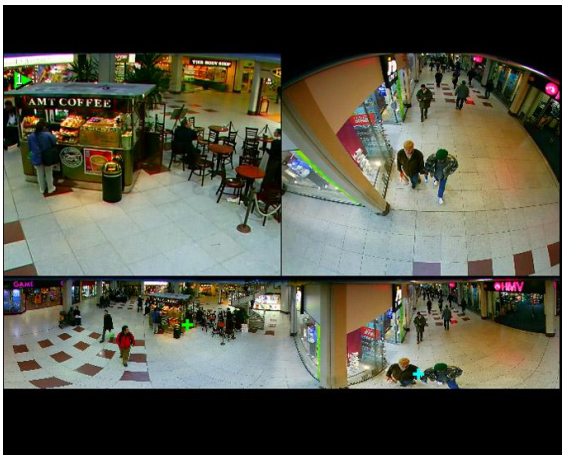
Unless you are using the menus, the camera will be in operating mode. While it is in operating mode, you can use the following controls:

Key	Effect in Operating Mode
MENU	Enter or leave Menu.
▲	Tilt Up
▼	Tilt Down
◄	Pan Left
►	Pan Right
↻	Zoom In (or compress 180º views)
↺	Zoom Out (or expand 180º views)
OPEN	Temporarily brightens the picture. The picture brightness is reset on any PTZ or by pressing **RESTORE**.
CLOSE	Temporarily darkens the picture. The picture brightness is reset on any PTZ or by pressing **RESTORE**.
RESTORE	Press to restore normal picture brightness settings.
CAMERA	After entering a number, press **CAMERA** to move control from one video output to the other.
STILL	Freezes the image on a selected VCAM. While the image is frozen most features are still available: you can PTZ and look at any of your presets, and tours will still run. Press **STILL** again to go back to normal operation;
NEAR	Change active VCAM
FAR	Change screen format. (You can choose between a 360° ultra-wide-angle view, a 360° strip above two VCAM views, two 180° views one above the other, four VCAMs, four x 90º panorama or full screen shots of VCAMs 1 and 2)
PLAYBACK	Press to toggle between current camera view and playback of recorded material.
FLIP	Press to rotate any VCAM by 180º.
UNATTENDED MODE	Press to perform pre-programmed default actions immediately.
PRESET	After entering a number, press **PRESET** to move current VCAM to chosen preset
TOUR	After entering a number, press **TOUR** to start your chosen preset tour in the current VCAM. (Use ▲▼◄ or ► to stop a tour).
LEARN	After entering a number, press **LEARN** to start your chosen learn tour in the current VCAM. (Use ▲▼◄ or ► to stop a tour).
FN	Use to create new presets: e.g., to create a new preset 6, key in the sequence **FN** 6 **PRESET**

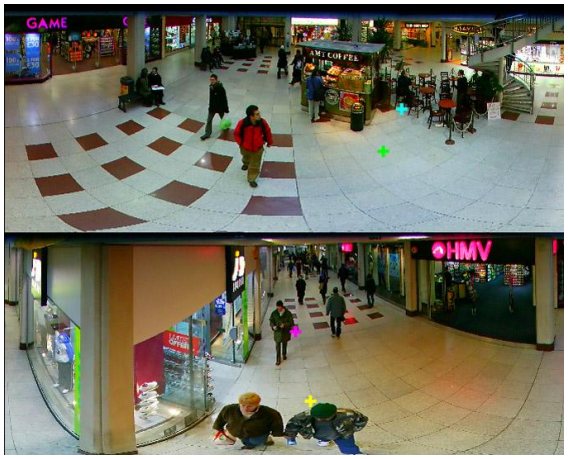
Changing views on your video output

Press the **FAR** key to move from one view to another on your video output. Note that this is subject to the status of the Lock Screen feature, described on Page 35. The following views are available:

360° view plus two VCAMs



Two 180° views



Single VCAM (with thumbnails)

360° view

Four VCAMs

Four x 90º panorama

You can pan and tilt (using ▲▼◀▶) and zoom (using ↻ ↺) in most formats.

The pan controls (◀▶), tilt controls (▲▼) and zoom controls (↻ ↺) work a little differently in the 2 x 180º, 360º panorama, 4 x 90º panorama and thumbnail view. In 2 x 180º view there is no need to pan because you can see the camera's entire field of view already. Zooming out will stretch both images vertically, so you can see more detail in areas of interest; zooming in compresses them, to give you the widest possible view; and tilting allows you to look at parts of the image that are out of view when it has been stretched.

On the 4 x 90º panorama all cameras move together in response to the pan and tilt controls.

To switch between VCAMs, use the **NEAR** key. You can identify each VCAM by the number on the coloured ▶ sign at top left. The screen shot below shows what you might see on your video output. Thumbnails are shown at bottom centre, the clock display appears at the bottom of the screen, and **`Alarm`** warnings appear at top right.

Press **STILL** to freeze the image at any time – the flashing **`Still mode`** warning will appear at top left. Press **STILL** again to go back to normal operation. Still mode will automatically time out after two minutes.

Press **FLIP** when looking at any individual VCAM to rotate it instantly through 180º. If you press **UNATTENDED MODE** the camera will immediately begin its pre-programmed default actions (see **4.1.9 Default actions**)

Screen shot showing a typical display from a selected VCAM.

Using the recorder

To look at recorded data, simply press **PLAYBACK/LIVE**. Press it again to return to the normal (live) camera view.

Note: If the menu password is activated, you will need to enter it here. See section **4.1.6 Menu Password** for instructions on setting and disabling the password.

If playback is selected, and two monitors are connected to the camera, the playback image will appear on both. The output where playback was selected will show the full playback menu (see below). The other output will simply show a status bar. Remember that anything you can do in live mode you can also do in playback mode.

The interactive menu on the playback screen

The interactive menu on the playback screen is divided into three areas.

The **selector bar** at the top allows you to

- choose an **`Event`** recording, or **`Select`** a section of continuous recording, watch it, lock it to ensure it is not erased, or unlock it if it is no longer required and can safely be erased.
- choose the playback mode (fast reverse or forward; reverse or normal play; pause; and forward or backward a frame at a time).
- choose PTZ mode (to see other parts of the recorded image), hide all but the status bar, or return to the current camera view.

The **timeline** at the centre can be used to find recordings made on a particular day and at a particular time as well as graphically show information such as events that have occurred.

The **interactive status bar** at the bottom shows the date, time and playback speed of the recording you are watching. You can also use it to select a specific date and time to examine.

Use ▲▼ to move between these three areas.

TIP:

When the camera first goes into playback mode the timeline may appear to be blank. Usually this is simply because it is waiting for data, or retrieving frames for display.

5.2 MENUS

5.2.1 MENU NAVIGATION OVERVIEW

It's very easy to use the menus. You can make most of the choices you need simply by using the joystick and keys shown in this table.

Key	Effect in Menu Navigation
MENU	Enter or leave the menu system (hold for at least 3 seconds on some keyboards)
▲	Up / Increase value
▼	Down / Decrease value
◄	Left / Cancel edit / Exit sub-menu and main menu
►	Right / Edit value / Accept value / Enter sub-menu
ENTER	Select
ESC	Exit sub-menu or main menu / Cancel edit
FAR	Toggle camera in and out of PTZ (Pan, Tilt and Zoom) mode behind the menu display

Note: When in certain menu pages, VCAM 1 is locked on the other video output to prevent another user from moving the VCAM whilst, for example, drawing a region or recording a learn tour.

Navigating

When you are navigating through a menu page, use ▲▼ to place the cursor next to an item, ► to select the item. Press ◄ or ESC to move back from a sub-menu to return to the main menu. Press the MENU key to leave the menu system altogether.

Editing a value

Some menu pages will let you edit values that affect the camera's operation. (For example, you can turn the auto flip feature on or off.) To edit a value, use ▲▼, as usual, to find the item you want to change, and then use ►. The cursor will move to the value. Use ▲▼ to change the value, ► to set the value or ◄ to ignore your changes and restore the previous value.

Adjusting the camera view

For some menu operations (e.g., creating a privacy zone), you will need to view a specific location. To do this, use the camera controls in the normal way (using ▲▼◄► to move the picture, and ↻ or ↺ to zoom in or out).

Drawing

When you are creating regions (e.g., privacy zones and motion-detection regions), you will need to draw and mark out an area on the screen. To do this, use ▲▼◄► to move the on-screen pointer.

Timing out

If you leave the camera in menu mode without doing anything for more than 5 minutes, it will return to normal operation automatically.

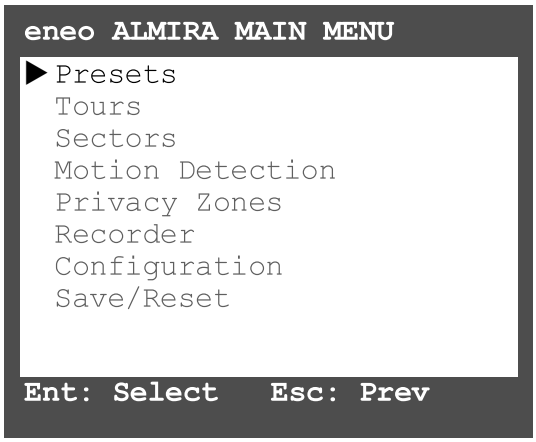
5.2.2 MAIN MENU

To access the camera's main menu, press the **MENU** key.

▲▼ highlights your chosen menu item

▶ selects your chosen menu item

◀ **or** **ESC** or **MENU** leaves the main menu



Choose **Presets**, **Tours**, **Sectors**, **Motion Detection** or **Privacy Zones** to set up and edit camera features.

Choose **Recorder** to set up and edit recorder features (see **6 The Recorder**).

Choose **Configuration** to set up the camera and program its features.

Choose **Save/Reset** to save your personal settings, or to reset the camera to its factory defaults.

5.2.3 PRESETS

A *preset* is a pre-programmed view of a particular area.

You can view it yourself, using the keyboard (key in the preset number followed by **PRESET**), or include it in a programmed sequence called a *preset tour* (see **5.2.4 Tours**).

You can program and save up to 128 different presets, which can be accessed by any VCAM.

To go to the Presets menu, press **MENU**, use ▲ and ▼ to highlight **Presets**, then use ▶.

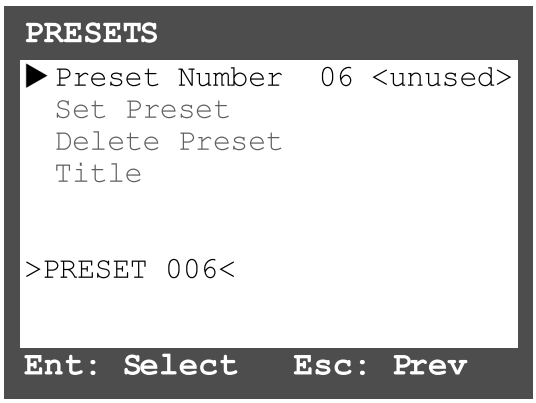
Add a new preset

1) In the **Presets** menu, use ▲ and ▼ to highlight **Preset Number**, then use ▶.

2) Use ▲ and ▼ to choose an unused preset number, then press ▶ to confirm your choice. You can enter presets in any order.

3) Use ▲ and ▼ to highlight **Set Preset**, then use ▶.

4) A full-screen image appears. Use ▲▼◀▶↻ and ↺ to pan, tilt and zoom until you have the view you need. Press **ENTER** to save this view as a preset. The message **(Preset set)** appears at the bottom of the screen. Then press **ESC** to go back to the **Presets** menu.



TIP:

You can also use keyboard shortcuts to set up a preset more quickly.

1) Use ▲▼◀▶ ↻ and ↺ to move the camera to the preset you want to record.

2) Press **FN**, key in the number for your new preset, then press **PRESET**. The system will create your new preset automatically. A message will appear on screen to tell you that your preset has been created.

3) To test your preset, move the camera, then key in the number of your preset and press **PRESET**. The camera will move to the preset position, and the preset title will appear on screen.

Note: presets created in this way will not be saved to permanent memory until you go into menus and save them either by selecting **`Save Settings Now`** from the **`Save/Reset`** menu or by exiting menus, assuming you have **`Save Settings On Exit`** turned on.

View an existing preset

Key in the number of your preset, and then press the **PRESET** button. The camera will move to your chosen preset, and the title will appear on screen.

Delete an existing preset

1) In the **`Presets`** menu, use ▲ and ▼ to highlight **`Preset Number`**, then use ▶.

2) Use ▲ and ▼ to select the preset you want to delete, then press **ENTER** to confirm your choice.

3) Use ▲ and ▼ to highlight **`Delete Preset`**, then use ▶.

4) Press **ESC** to cancel, or **ENTER** to delete the preset. **`(Preset deleted)`** appears at the bottom of the screen.

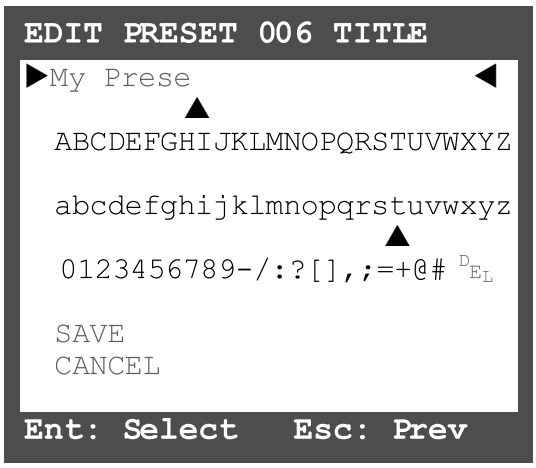
5) Press **ESC** to go back to the Presets menu.

Create or edit a preset title

1) In the **`Presets`** menu, use ▲ and ▼ to highlight **`Title`**, then use ▶ to move to the next screen

2) Use ▲ and ▼ to highlight **`Edit Title`**, then use ▶.

3) An alphabet screen appears. If necessary use ◀▶ to move the edit pointer along the title itself, e.g., so you can change a single letter. Then use ▼ to select the alphabet and then use ▲▼◀▶ to find the first letter or number you want, and press **ENTER** to add it to the title. Repeat until you have finished the title you want. A title can contain up to 20 characters.



4) You can cancel at any time. Use ▲▼◀▶ to highlight **`CANCEL`** (bottom of screen), and then press **ENTER**.

5) Choose **SAVE** (bottom of screen) using ▲▼◀▶, then press ▶. Your preset title will now be saved to the camera's memory, and you are taken back to the previous screen. You can now choose where the title appears on screen.

6) To move this title up or down the screen, use ▲ and ▼ to highlight **Title Row**, use ▶, then use ▲▼ to select the row number where you want the title to appear. Press ▶ to confirm your choice.

7) To move the positions of the title across the screen, use ▲ and ▼ to highlight **Title Pos,** use ▶, then use ▲ and ▼ to set your title to the right, the left, or the centre of the screen (or choose **None** to stop displaying it) – again, press ▶ to confirm your choice.

8) Press **ESC** to return to the Presets menu, or press **MENU** to return to normal operation.

Note: All preset titles remain on screen for 5 seconds.

5.2.4 TOURS

The Almira allows you to program a complex set of movements called a *tour*. Tours can move between existing presets (preset tours), or duplicate a set of joystick movements (learn tours).

In the main menu, use ▲ and ▼ to highlight **Tours** and then use ▶ to go to the Tours menu.

In the Tours menu, use ▲ and ▼ to highlight **Preset Tours** or **Learn Tours**, then ▶ to go to the next screen.

Preset Tours

Once you have set up the presets you need (see **5.2.3 Presets** above) you can create a *preset tour*. A preset tour is a programmed series of camera movements from one preset to another.

You can add up to 64 presets to the tour, and you can program and save up to four different tours.

To go to the **Preset Tours** menu, use ▲ and ▼ in the Tours menu to highlight **Preset Tours**, then use ▶.

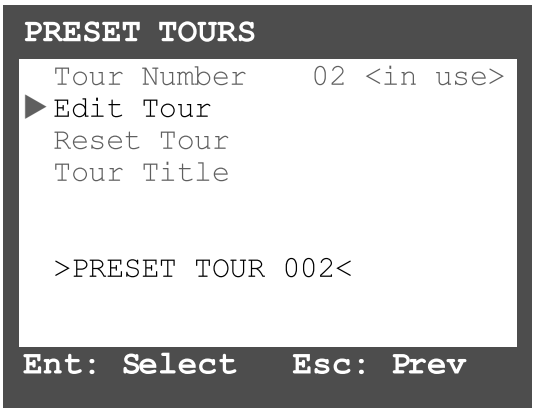
Create a preset tour

1) In the **Preset Tours** menu, use ▲ and ▼ to highlight **Tour Number,** then use ▶.

2) Use ▲ and ▼ to select an unused tour number, then press ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Edit Tour**, then use ▶. A new menu appears (see below).

4) Use ▶ to select the **Preset** column, then press **ENTER**. Use ▲ and ▼ to choose the preset you want to visit, and Press **ENTER** to confirm.

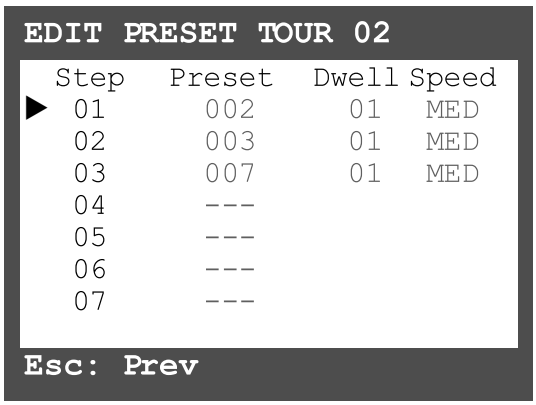


5) Now use ▶ to select the **Dwell** column, and press **ENTER**. Use ▲ and ▼ to set the time, in seconds, that the camera will stop at the preset. Press **ENTER** to confirm.

6) Use ▶ to select the **Speed** column, then press **ENTER**. Use ▲ and ▼ to choose how quickly the camera will move from this preset to the next. You can choose between slow, medium, fast and instant. Press **ENTER** to confirm.

7) Use ▼ to move down to the next step. Repeat steps **4)** to **6)** until your tour is complete.

8) Press **ESC** to return to **Preset Tours** menu.



Start a preset tour

In any VCAM, key in the number of your tour, and then press the **TOUR** button. The camera will begin your chosen tour. To stop the tour, use ▲▼◀▶ ↻ or ↺.

Note: all tours will stop automatically if an alarm is triggered and the camera is programmed to do something else in response to that alarm.

Edit a preset tour

1) In the **Preset Tours** menu, use ▲ and ▼ to highlight **Tour Number**, then use ▶.

2) Use ▲ and ▼ to select the tour you want to edit, then press ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Edit Tour,** then use ▶. A new menu appears.

4) Use ▶ to select any item you want to change, and press **ENTER**. Then use ▲ and ▼ to change the setting, and press **ENTER** to confirm. Repeat until all your changes have been made.

5) If you need to add new presets to the tour, follow the instructions for creating a preset tour (see above, from step **4)** onward).

6) Press **ESC** to return to the **Preset Tours** menu.

Reset a preset tour

Note: Resetting a tour will clear all the preset entries you have made for it from the camera's memory.

1) In the **Preset Tours** menu, use ▲ and ▼ to highlight **Tour Number,** then use ▶.

2) Use ▲ and ▼ to highlight **Reset Tour,** then use ▶ to go to the next screen.

3) Press **ENTER** to remove the tour from the camera's memory, or **ESC** to cancel.

Edit a preset tour title

1) In the **Preset Tours** menu, use ▲ and ▼ to highlight **Tour Title,** then use ▶ to go to the Preset Tour Title menu.

2) Refer to the instructions for editing a preset title on page 49.

Learn tours

A learn tour is a series of camera movements which you create with the joystick. All these movements are recorded and saved in the camera's memory. The camera supports four learn tours of up to three minutes each.

Learn tours can be played at any time using keyboard shortcuts. If you make a mistake, or need to make a change, you can edit an existing tour at any time.

To go to the **Learn Tours** menu, use ▲ and ▼ in the Tours menu to highlight **Learn Tours**, then use ▶.

Create a new learn tour

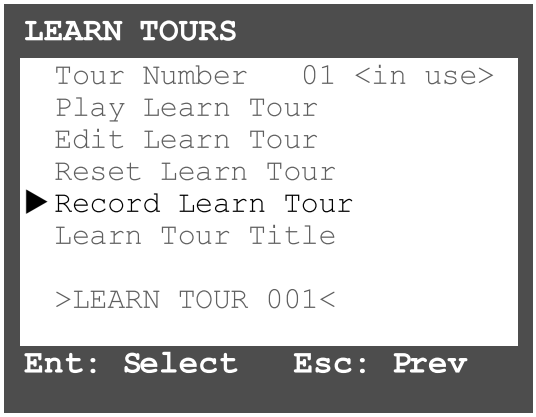
1) In the **Learn Tours** menu, use ▲ and ▼ to highlight **Tour Number,** then use ▶.

2) Use ▲ and ▼ to select an unused tour number, then press ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Record Learn Tour,** then use ▶. A new menu appears.

4) Use ▲▼◀▶ ↻ and ↺ to move the camera to the place where you want the tour to start. Press **ENTER** to start recording.

5) Now use ▲▼◀▶ ↻ and ↺ to guide the camera through your tour. Don't worry if you make a mistake – you can correct it later. Your tour can last for up to 180 seconds.



6) To stop recording, press **ENTER**. This takes you back to the **Learn Tours** menu.

Start a learn tour

In any VCAM, key in the number of your tour, and then press the **LEARN** button. The camera will begin your chosen tour. To stop the tour, use ▲▼◀▶ ↻ or ↺.

Note: all tours will stop automatically if an alarm is triggered and the camera is programmed to do something else in response to that alarm.

View a learn tour

1) In the **Learn Tours** menu, use ▲ and ▼ to highlight **Tour Number**, then use ▶.

2) Use ▲ and ▼ to select your chosen tour number, then press ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Play Learn Tour,** then use ▶. A new screen appears.

4) Press **ENTER** to start the tour, and press it again to stop.

Edit an existing learn tour

1) In the **Learn Tours** menu, use ▲ and ▼ to highlight **Tour Number,** then use ▶.

2) Use ▲ and ▼ to select your chosen tour number, then press ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Edit Learn Tour,** then use ▶. A new menu appears.

4) Press **ENTER** to start the tour, and then use ▲▼◀▶ ↻ or ↺ when you reach the point where you want to edit the tour. Continue using these controls to guide the camera through the rest of your tour. This will replace any moves you recorded earlier.

5) When you want to stop, press **ENTER** to return to the previous screen.

Reset an existing learn tour

Note: Resetting a tour will permanently remove it from the camera's memory.

1) In the **Learn Tours** menu, use ▲ and ▼ to highlight **Tour Number,** then use ▶.

2) Use ▲ and ▼ to select your chosen tour number, then press ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Reset Learn Tour**, then use ▶ to go to the next screen.

4) Press **ENTER** to remove the tour from the camera's memory, or **ESC** to cancel.

Edit a learn tour title

1) In the **Learn Tours** menu, use ▲ and ▼ to highlight **Learn Tour Title,** then use ▶ to go to the Learn Tour Title menu.

2) Refer to the instructions for editing a preset title on page 49.

5.2.5 SECTORS

You can select any area in the camera's field of view to be a sector, and give it a label. This label will appear on screen when any camera is pointing at the sector.

Suppose, for example, that the camera covers a retail area comprising similarly merchandised departments (e.g., menswear, ladieswear, childrenswear). By making each department a separate sector, and labelling it, you can instantly see where an event is happening. You can then tell other staff, or the emergency services, exactly where they need to go.

The Almira uses sophisticated electronics to ensure that any sector you define remains pixel accurate, even when you pan, tilt or zoom across the virtual cameras.

A sector can be as large or as small as you need it to be – it can cover a large area, a single desk, or a single computer. The system will accept up to 75 different sectors.

CAUTION:

Opening the **Sectors** menu will temporarily disable VMD. This means that **neither the camera nor the recorder** will respond to VMD events until you leave the **Sectors** menu.

Navigate to the Sectors menu

From the main menu, use ▲ and ▼ to highlight **Sectors**, then use ▶.

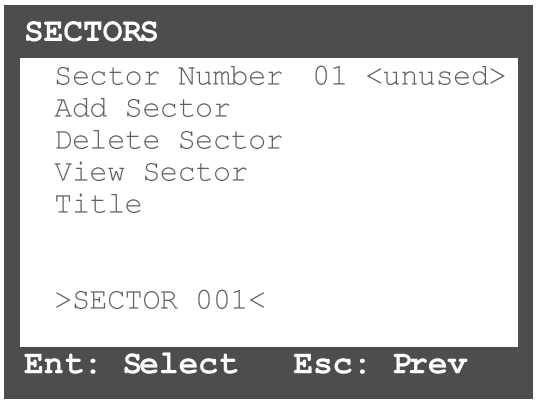
Add a sector

1) In the **Sectors** menu, use ▲ and ▼ to highlight **Sector Number**, then use ▶ to move to the options.

2) Use ▲ and ▼ to find an unused sector number, and then use ▶ to confirm your choice.

3) Use ▲ and ▼ to highlight **Add Sector**, then use ▶ to move to the next screen.

4) Move the camera's view until you can see the area you want to define as a sector.



5) When ready, press **ENTER**.

6) A pointer appears on screen. Use ▲▼◀▶ to move it to the top left-hand corner of the area you want within the sector. When the pointer is in the correct position, press **ENTER**.

7) Now use ▲▼◀▶ again to move the pointer to the bottom right-hand corner of the sector area. A bounding box will be drawn as the pointer is moved. Make sure the outline covers the entire sector.

8) When you are happy with the position of the pointer (and outline box), press **ENTER**.

9) The sector will be shown on screen.

10) Press **ESC** to go back to the **Sectors** menu.

Delete a sector

1) In the **Sectors** menu, use ▲ and ▼ to highlight **Sector Number**, then use ▶ to move to the options.

2) Use ▲ and ▼ to find the sector you want to delete. Its title will appear at the bottom of the screen. Use ▶ to confirm your choice.

3) Now use ▲ and ▼ to highlight **Delete Sector,** then use ▶ to go to the Delete Sector menu.

4) Press **ENTER** to delete the sector, or **ESC** to cancel.

Look at an existing sector

1) In the **Sectors** menu, use ▲ and ▼ to highlight **Sector Number**, then use ▶ to move to the options.

2) Use ▲ and ▼ to find the sector you want to look at. Its title will appear at the bottom of the screen. Use ▶ to confirm your choice.

3) Now use ▲ and ▼ to highlight **View Sector,** then press **ENTER** to see the sector you have selected.

Edit a sector title

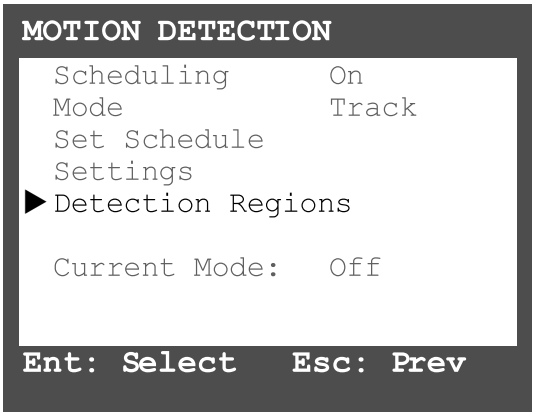
It's important to give each sector a unique label. Each label can be up to 20 characters long.

1) In the **Sectors** menu, use ▲ and ▼ to highlight **Edit Title,** then use ▶ to go to the Sector Title menu.

2) Refer to the instructions for editing a preset title on page 49.

5.2.6 MOTION DETECTION

The camera can be programmed to detect movement anywhere in the area it covers.



If it *does* detect movement, it will trigger an alarm inside the camera itself. This can be linked to an external alarm output (see **4.1.8 Alarms**). You can also program the camera to move to any area that triggers a motion-detection alarm, and set the VCAMs to track the movements of objects or people who have triggered the motion alarm.

Suppose you set up an area near an outside door that is normally kept locked. If an intruder enters through that door then:

- The virtual camera will automatically follow their movements, so they can be clearly seen on the video outputs.
- Any linked device will be triggered.

You can create up to 75 different motion-detection regions.

Motion-detection regions are very flexible. You can set them to cover a large area (e.g., in front of main entrance doors) or a much smaller one (e.g., a particular door or window).

When you have set up one or more motion detection areas, you can choose the times when they trigger an alarm – on any day of the week, at any time of the day or night. You can also choose whether the camera will respond by:

- triggering an alarm
- triggering an alarm and tracking the movement as well.

Motion tracking can be enabled and disabled individually within each VCAM.

This means that this camera is unique in enabling up to four moving independent objects or individuals to be tracked simultaneously and recorded on a DVR connected to the camera. Even in unmanned installations, you have the security of knowing that this functionality will protect your site around the clock.

An icon is provided on screen to indicate the status of VCAMs which have motion detection enabled:

This is shown when a VCAM has motion detection enabled and is tracking an object. A tracking ID for the object is shown next to the icon.

The tracking ID is provided to enable the operator to follow an individual, even when the logical system described below moves them between VCAMs, depending on the tracking mode that has been selected.

How Moving Objects Are Assigned To Tracking VCAMs

Note: The camera works identically to previous versions of software if only one VCAM has motion detection enabled.

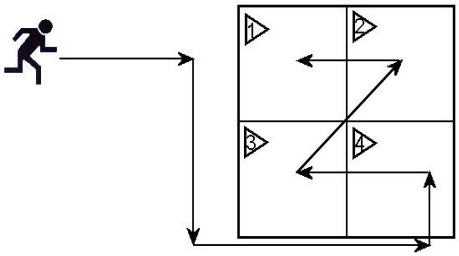
If multiple VCAMs have tracking enabled, the assignment of a moving object to a VCAM is determined dynamically by the camera, according to the logic explained below. This ensures that if multiple VCAMs have tracking enabled but, for example, only full-screen VCAM 1 is being recorded on your DVR, then motion will be captured as soon as VCAM 1 becomes available, even if the motion was initially being tracked on another VCAM. It reduces the chances of motion taking place but not being captured on DVR if the wrong view is selected.

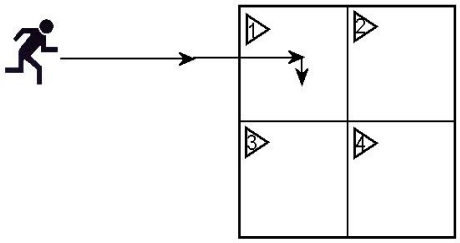
If multiple VCAMs are enabled, then the logic for determining which moving object appears in which VCAM is described here.

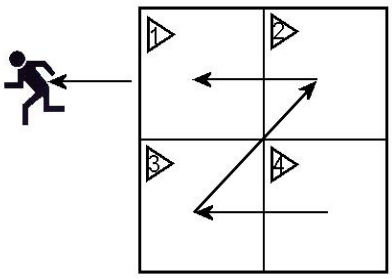
The assignment of VCAMs is constantly evaluated and adjusted by the camera. As soon as a tracking VCAM stops tracking, the assignments adjust accordingly. In the following illustrations, it is assumed that all four VCAMs are set to track and four people enter VMD regions as described below. They will be assigned to VCAMs as follows:

Track Object = First	**Track Object = Last**
Each time an object enters a motion detection region, it will be tracked by the lowest-numbered VCAM which is not already tracking another object.	The last object to trigger motion detection is allocated to the lowest-numbered VCAM and the object that was being tracked there is shuffled up to the next VCAM.
1 – John enters the room and is tracked on VCAM 1 (tracking ID = A)	
2 – David enters the room while John is still being tracked:	
VCAM 1 – John (tracking ID = A) VCAM 2 – David (tracking ID = B) VCAM 3 – Waiting VCAM 4 – Waiting	VCAM 1 – David (tracking ID = B) VCAM 2 – John (tracking ID = A) VCAM 3 – Waiting VCAM 4 – Waiting
3 – Robert enters the room while the other two are being tracked:	
VCAM 1 – John (tracking ID = A) VCAM 2 – David (tracking ID = B) VCAM 3 – Robert(tracking ID = C) VCAM 4 – Waiting	VCAM 1 – Robert (tracking ID = C) VCAM 2 – David (tracking ID = B) VCAM 3 – John (tracking ID = A) VCAM 4 – Waiting
4 – Andy enters the room while the other three are being tracked:	
VCAM 1 – John (tracking ID = A) VCAM 2 – David (tracking ID = B) VCAM 3 – Robert (tracking ID = C) VCAM 4 – Andy (tracking ID = D)	VCAM 1 – Andy (tracking ID = D) VCAM 2 – Robert (tracking ID = C) VCAM 3 – David (tracking ID = B) VCAM 4 – John (tracking ID = A)
5 – John leaves the area	
VCAM 1 – David (tracking ID = B) VCAM 2 – Robert (tracking ID = C) VCAM 3 – Andy (tracking ID = D) VCAM 4 – Waiting	VCAM 1 – Andy (tracking ID = D) VCAM 2 – Robert (tracking ID = C) VCAM 3 – David (tracking ID = B) VCAM 4 – Waiting
6 – Robert leaves the area	
VCAM 1 – David (tracking ID = B) VCAM 2 – Andy (tracking ID = D) VCAM 3 – Waiting VCAM 4 – Waiting	VCAM 1 – Andy (tracking ID = D) VCAM 2 – David (tracking ID = B) VCAM 3 – Waiting VCAM 4 – Waiting
7 – Andy leaves the area	
VCAM 1 – David (tracking ID = B) VCAM 2 – Waiting VCAM 3 – Waiting VCAM 4 – Waiting	VCAM 1 – David (tracking ID = B) VCAM 2 – Waiting VCAM 3 – Waiting VCAM 4 – Waiting

The following diagrams help to explain how the VCAMs adjust when objects are being tracked in the different modes. This assumes, again, that all four VCAMs have tracking enabled:

<table>
<tr><th></th><th>Track Object = First</th><th>Track Object = Last</th></tr>
<tr><td>Objects start being tracked</td><td> 

New object goes to lowest available VCAM
Objects already being tracked don't move</td><td> 

New object goes to lowest VMD-enabled VCAM
Objects previously being tracked shuffle up</td></tr>
<tr><th colspan="3">In both cases</th></tr>
<tr><td>Objects stop being tracked</td><td colspan="2"> 

Objects shuffle back to fill the 'gap' created</td></tr>
</table>

CAUTION:

Opening the **Motion Detection** menu will temporarily disable VMD. This means that **neither the camera nor the recorder** will respond to VMD events until you leave the **Motion Detection** menu.

To go to the **Motion Detection** menu, press **MENU**, use ▲ and ▼ to highlight **Motion Detection**, then use ▶. When you go into this menu all detection regions that have already been programmed will become visible as coloured areas on the video output.

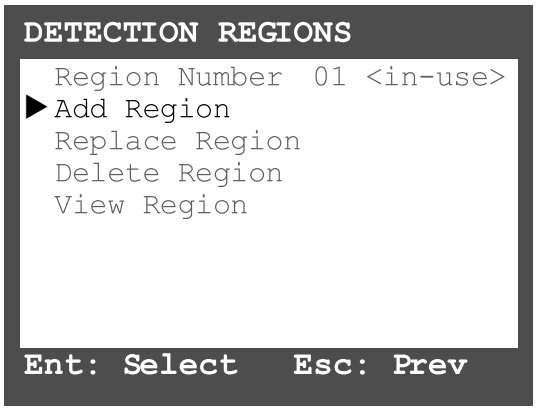
Create a detection region

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Detection Regions**, then use ▶.

2) Use ▲ and ▼ to highlight **Add Region**, then use ▶.

3) Use ▲▼◀▶ ↻ and ↺ to move the camera to the area where motion detection is needed. When it is in the right place, press **ENTER**.

4) A pointer appears on screen. Use ▲▼◀▶ to move it to the top left-hand corner of the area where you want motion detection.



5) When the pointer is in the correct position, press **ENTER**.

6) Now use ▲▼◀▶ again to move the pointer to the bottom right-hand corner of your chosen area. A bounding box will be drawn as the pointer is moved. Make sure the outline covers the entire region where you want motion detection to operate.

7) When you are happy with the position of the pointer (and outline box), press **ENTER**.

8) The motion-detection region will appear on screen.

9) Press **ESC** or ◀ to go back to the **Detection Regions** menu.

Activate motion detection

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Mode**, then use ▶.

2) Use ▲ and ▼ to select **Detect**, then press ▶.

Activate motion tracking

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Mode**, then use ▶.

2) Use ▲ and ▼ to select **Track**, then press ▶.

Turn off motion detection/tracking

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Mode**, then use ▶.

2) Use ▲ and ▼ to select **Off**, then press ▶.

View a detection region

3) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Detection Regions**, then use ▶.

4) Use ▲ and ▼ to highlight **Region Number**, then press ▶. Use ▲ and ▼ to choose the region you want to look at. Press ▶ to confirm.

5) Use ▲ and ▼ to highlight **View Region**, then press **ENTER**. The chosen region will be shown on screen.

Delete a detection region

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Detection Regions**, then use ▶.

2) Use ▲ and ▼ to highlight **Region Number**, then press ▶. Use ▲ and ▼ to choose the region you want to delete. Press **ENTER** to confirm.

3) Use ▲ and ▼ to highlight **Delete Region**, then use ▶. The region will be deleted.

Turn Scheduling on or off

In the **Motion Detection** menu, use ▲ and ▼ to select **Scheduling**, and then use ▶. Now use ▲ and ▼ to select **On** or **Off**, and press **ENTER** to confirm.

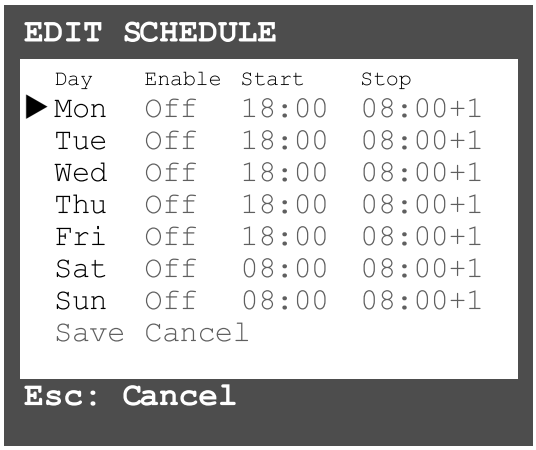
Schedule motion detection/tracking

The camera allows you to specify when motion detection/tracking will operate automatically, so you never need fear forgetting to activate it. For example, if monitoring a convenience store, you might elect to turn motion tracking off whilst the shop is open and turn it on overnight, when the shop is closed.

1) In the **Motion Detection** menu, ensure that **Scheduling** is set to **On**, then use ▲ and ▼ to highlight **Set Schedule**, then use ▶ to go to the **Edit Schedule** menu.

2) Use ▲ and ▼ to find the day you want to program, ◀ and ▶ to reach the setting you want to change, and press **ENTER** to edit it.

3) Use ▲ and ▼ to change values, and press **ENTER** to confirm each choice. Cancel scheduled items by turning **Enable** to **Off**, Change times by editing hours and minutes. If you advance the **Stop** point beyond 00.00 the display will add +1 (as shown here), showing that it occurs on the following day.



Note: if you want a schedule to be active for a given day, make sure **Enable** is set to **On** for that day.

4) If you set up two overlapping schedules, the offending schedules will turn red and you will see the message **Please Resolve Conflicts** at the bottom of the screen. You should change the settings that are causing the conflict or alternatively press **ESC** to leave the screen, ignoring all the changes you made.

5) When you are ready, use ▲ and ▼ to move to **Save**, then press **ENTER** to save your settings and go back to the Motion Detection menu.

6) In the Motion Detection menu, use ▲ and ▼ to select **Sched. Mode**, and then use ▶. Now use ▲ and ▼ to choose how the camera will work when motion detection is turned on:

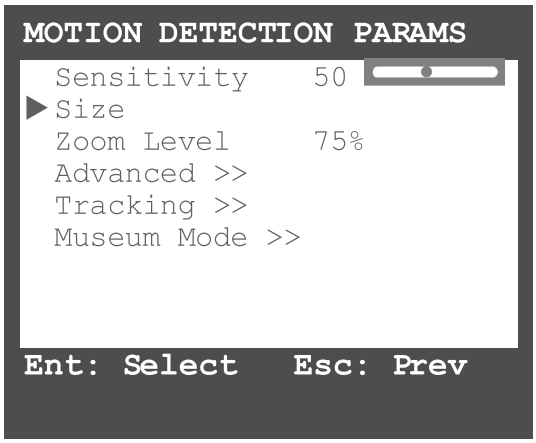
- **Off**: no response
- **Detect**: camera triggers an on-screen alarm
- **Track**: camera triggers an on-screen alarm and follows the motion.

Press ▶ to confirm your choice.

The current setting is shown in **Current Mode** at the bottom of the **Motion Detection** menu.

Modify the behaviour of motion detection and motion tracking

In the **Motion Detection** menu, use ▲ and ▼ to highlight **Settings**, then use ▶. The **Motion Detection Params** menu appears, providing several different ways to modify the behaviour of motion detection and motion tracking.



Sensitivity

The camera detects motion by using a sophisticated motion detection algorithm. The **Sensitivity** setting determines how sensitive this algorithm is to motion. At the lowest setting (1), the camera is very insensitive. At the highest setting (100), it is extremely sensitive to motion.

Note: Naturally the camera's ability to detect motion is affected by prevailing light levels.

1) In the **Motion Detection Params** menu, use ▲ and ▼ to highlight **Sensitivity**, then use ▶ to move to the slider.

2) Use ▲ and ▼ to adjust the **Sensitivity** value between 1 and 100. Press ▶ to confirm.

Size

The Size setting gives the camera an indication of how large an object needs to be in order to trigger an alarm. The setting relates to the size of an object as the camera sees it in the full 360° view. At the lowest setting (1), even a very small moving object will trigger an alarm. At the highest setting (100), only an object that almost fills the camera's field of view will trigger an alarm.

1) In the **Motion Detection Params** menu, use ▲ and ▼ to highlight **Size**, then use ▶ to move to a new screen showing the 360° view.

2) Use ▲ and ▼ to adjust the value between 1 and 100. A coloured square on the screen will change size to show you the size of area you have set as the camera sees it. Press ▶ to confirm and then press **ESC** to go back to the **Motion Detection Params** menu.

TIP:

Walk Test

When you have set up a motion-detection region and turned it on, go into the **Size** setting menu and ask a colleague to stand within the motion-detection region. When they move, you will see a box outline appear around the movement in real time, allowing you to see exactly how the camera is responding. Adjust the **Size** setting until the camera responds precisely in the way that you wish.

Zoom Level

When a motion detection alarm is triggered, the camera will automatically pan and tilt to follow the moving object. **Zoom Level** determines how much the camera will zoom in to get a closer view of the moving object.

If **Zoom Level** is **Off** the camera will maintain its current zoom setting. At **100%** it will usually zoom in until the object fills roughly one-third of the screen. The camera will automatically adjust its zoom level to compensate for motion towards or away from the lens.

1) In the **Motion Detection Params** menu, use ▲ and ▼ to highlight **Zoom Level**, then use ▶.

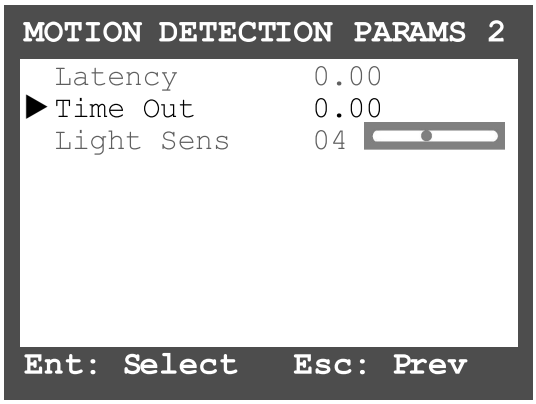
2) Use ▲ and ▼ to select the value you want, and then press ▶ to confirm.

Advanced

In the **Motion Detection Params** menu, use ▲ and ▼ to highlight **Advanced >>**, and then use ▶ to move to the next menu page.

Latency

Adjust this setting to determine how long the camera will wait before triggering a motion detection alarm on screen. Any movement in a motion detection region will alert the camera at once, but if **Latency** is set to e.g., 3 seconds, the camera will not put up an on-screen alarm until it has detected continuous movement for at least 3 seconds.



1) In the **Motion Detection Params 2** menu, use ▲ and ▼ to highlight **Latency**, then use ▶.

2) Use ▲ and ▼ to select the value you want (between **0** and **6** seconds in quarter-second steps), and then press ▶ to confirm.

Time Out

Adjust this setting to program how long the camera's own internal alarm will give an alert after it has been triggered. Suppose, for example, an intruder enters a room and triggers a motion detection alert. They then stop for a few seconds before moving again and triggering a second motion detection alert. If **Time Out** is at its maximum setting (6), then they will have to stop moving altogether for at least 6 seconds before the alarm will stop.

1) In the **Motion Detection Params 2** menu, use ▲ and ▼ to highlight **Time Out**, then use ▶.

2) Use ▲ and ▼ to select the value you want (between **0** and **6** seconds in quarter-second steps), and then press ▶ to confirm.

Light Sensitivity

The camera is able to recognize and to filter motion alarms depending on how they were caused – by changes in lighting or by actual motion.

This setting adjusts the camera's response to changing light levels, helping to reduce the number of false alarms.

At the lowest setting (1) only very large changes in light level will trigger an alarm (e.g., if the lighting changes from total darkness to full light). At the highest setting (10), very small changes (e.g., a desk lamp) will be enough to trigger an alarm.

1) In the **Motion Detection Params 2** menu, use ▲ and ▼ to highlight **Light Sens**, then use ▶.

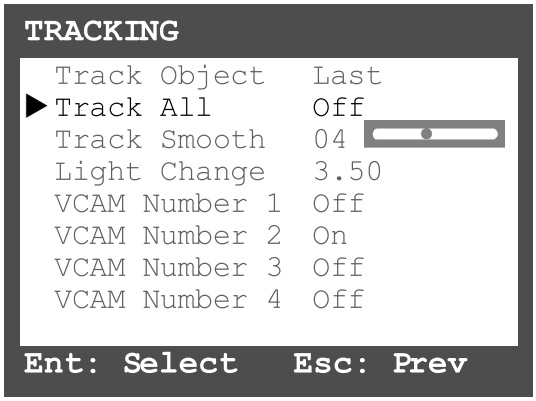
2) Use ▲ and ▼ to select the value you want (between **1** and **10**), and then press ▶ to confirm.

Tracking

In the **Motion Detection Params** menu, use ▲ and ▼ to highlight **Tracking**, and then use ▶ to move to the next menu page.

Track object

When the camera is set to track anything that triggers a motion detection alarm it will show on screen and track either the first person that triggered the alarm or the last. You can choose which is more important to you by changing this value.



1) In the **Tracking** menu, use ▲ and ▼ to highlight **Track Object**, then use ▶.

2) Use ▲ and ▼ to choose either **First** or **Last**, and then press ▶ to confirm.

Note: the camera combines elements of motion tracking and object tracking to achieve the best possible results. However, if e.g. two people cross each other's paths in a motion detection zone the camera will choose one person at random to follow after they part company. If you have the recorder attached you can, of course, review multiple motion to your heart's content using the playback feature and follow the motion as though it were happening now.

Track All

If **Track All** is turned **On**, the camera will continue to track a moving object after it has left the motion detection region that triggered the first alarm. If it is turned **Off**, the camera will stop tracking an object when it leaves the first motion detection region, but start tracking again if the object enters another motion detection region.

1) In the **Motion Detection Params** menu, use ▲ and ▼ to highlight **Track All**, then use ▶.

2) Use ▲ and ▼ to select **On** or **Off**, and then press ▶ to confirm.

Note: Tracking may be cancelled, temporarily, by pressing **ENTER** . This will cancel tracking until the next incursion into the region.

TIP:

With **Track All** switched **On**, it is possible to put a small motion detection region over e.g., a doorway and still be sure the camera will track an intruder even after they have entered the room. The camera supports 75 separate motion detection regions.

Track Smooth

The Track Smooth setting determines how smoothly the Motion Tracking algorithm is applied. At the lowest setting (1), a fast moving object will be tracked, but tracking may appear more jerky. At the highest setting (10), tracking will be smoother but may lag behind a fast moving object.

Light Change

Adjust this setting to program how long the camera will wait before triggering an alarm based on changes in light levels. For example, you may want to filter out the light change that occurs when staff enter an office in the morning. A set of fluorescent lights might take 3 seconds to achieve full brightness – so if **Light Change** is set to **3.50** seconds, this will not generate a false alarm.

1) In the **Tracking** menu, use ▲ and ▼ to highlight **Light Change**, then use ▶.

2) Use ▲ and ▼ to select the value you want (between **0** and **6** seconds in quarter-second steps), and then press ▶ to confirm.

VCAM Number 1-4

This setting allows you to decide which of the camera's VCAMs will carry out motion tracking. Using this feature, you can make the camera track 1, 2, 3 or 4 objects at the same time. Tracking then operates according to the logic detailed in section **5.2.6 Motion Detection**

3) In the **Tracking** menu, use ▲ and ▼ to highlight **VCAM Number X**, then use ▶.

4) Use ▲ and ▼ to select **on** or **off** and then press ▶ to confirm.

Ensure that motion tracking is enabled as required (see **Activate motion tracking** on page **58**)

5.2.7 MUSEUM MODE

Using the Museum Mode feature, you can choose to use the detection regions to trigger an alarm if an object is deposited, removed or changed position for longer than a given period of time. For example, you could place a detection region over a single painting, and the camera will alarm if the painting is removed. However, it will not alarm simply because people are passing in front of the painting. If the object(s) in question is obscured for longer than the specified period, the camera will alarm.

To go to the **Motion Detection** menu, press **MENU**, use ▲ and ▼ to highlight **Motion Detection**, then use ▶. When you go into this menu all detection regions that have already been programmed will become visible as coloured areas on the video output.

Activate Museum Mode

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Mode**, then use ▶.

2) Use ▲ and ▼ to select **Museum**, then press ▶.

Configure Museum Mode settings

The Museum Mode feature has two settings. To access these settings, select **Museum Mode >>** from the motion detection params menu.

Acquisition latency is a guide to how long an object needs to be inside a detection region before the system detects it. It can also trigger an alarm if an object inside a detection region is removed, or if there is a detectable change within that region (e.g. if a door that is normally shut is opened). The lowest setting equates to approximately 10-15 seconds and the highest setting (40) equates to approximately 10-15 minutes.

User acknowledgement determines what the system will do when a Museum Mode alarm is triggered. If user acknowledgement is switched **On**, then an alarm message, **ALARM Ent to Clr** will appear on screen when the alarm is triggered. An operator needs to press **ENTER** before the alarm can be cleared down. If user acknowledgement is **Off**, the alarm will appear on screen for a short period. After that the camera will build the new object into its overall picture of the scene and accept it as normal.

Note: when Museum Mode is first switched on, the system will need a minute to analyse information in the scene. You will see the message **Learning Scene** on screen. Once the message disappears, the camera is actively monitoring for new objects, object removal and scene change. The same process takes place:

- when an alarm is reset by an operator
- when a user enters the menu system and changes certain settings.

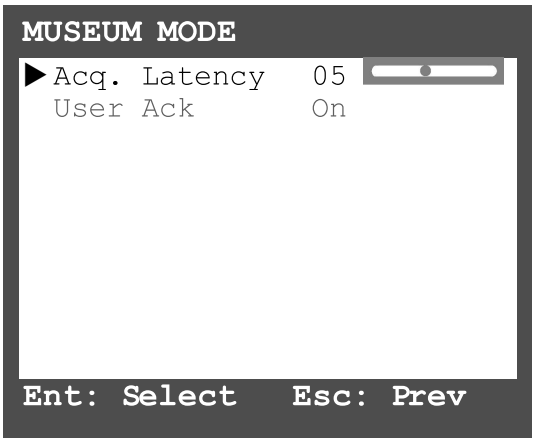
In both cases the system needs approximately a minute to analyse the scene before the programmed response is restored, and during this period *no alarms will be reported*.

1) In the **Motion Detection** menu, use ▲ and ▼ to highlight **Settings**, then use ▶ to enter the **Motion Detection Params** menu.

2) Use ▲ and ▼ to highlight **Museum Mode**, then use ▶ to enter the **Museum Mode** menu (right).

3) Use ▲ and ▼ to highlight **Acq. Latency** then use ▶. Use ▲ and ▼ to move the value up and down between 1 (fastest response) and 40 (slowest response).

4) Use ▶ to confirm your choice.



5) Use ▲ and ▼ to highlight **User Ack** then use ▶. Use ▲ and ▼ to turn User Acknowledgement **On** or **Off**. Finally use ▶ to confirm your choice.

5.2.8 PRIVACY ZONES

By using privacy zones you can mask off individual parts of the camera's view.

Suppose the camera is looking at a wall safe. You can set up a privacy zone to cover just the dial, so that the combination will not be visible to anyone watching the video outputs.

Unlike conventional mechanical PTZ cameras, the Almira uses sophisticated electronics and software to provide pixel-accurate privacy zones. It will maintain these regions even when you pan, tilt and zoom across the virtual cameras.

Privacy zones are very flexible. They can be very small (to cover just a few keys on a keypad) or very large (to cover an entire apartment block). The system will accept up to 75 different privacy zones.

CAUTION:

Opening the **Privacy Zones** menu will temporarily disable VMD. This means that **neither the camera nor the recorder** will respond to VMD events until you leave the **Privacy Zones** menu.

Navigate to the Privacy Zones menu

From the main menu, use ▲ and ▼ to highlight **Privacy Zones**, then use ▶.

Turn on privacy zones

1) In the **Privacy Zones** menu, use ▲ and ▼ to highlight **Active**, then use ▶. Use ▲ and ▼ to turn the zones **On** or **Off**.

2) When **Active** is set to **On**, areas programmed as privacy zones will be blanked out on both video outputs and on recorded data that is played back. You can reveal these areas both on live output and on recorded data by setting **Active** to **Off**.

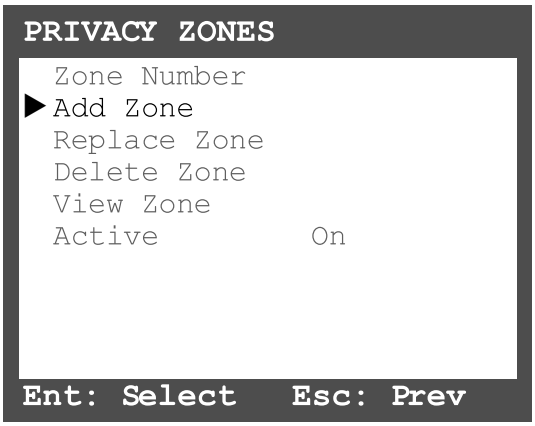
Add a privacy zone

1) In the **Privacy Zones** menu, use ▲ and ▼ to highlight **Add Zone**, then use ▶.

2) Move the camera's view until you can see the area you need to blank out. When ready, press **ENTER**.

3) A pointer appears on screen. Use ▲▼◀▶ to move it to the top left-hand corner of the object to be blanked. When the pointer is in the correct position, press **ENTER**.

4) Now use ▲▼◀▶ again to move the pointer to the bottom right-hand corner of the object to be blanked. A bounding box will be drawn as the pointer is moved. Make sure that the outline covers the entire region to be blanked.



5) When you are happy with the position of the pointer (and outline box), press **ENTER**.

6) The privacy zone will be shown on screen.

7) Press **ESC** to go back to the **Privacy Zones** menu.

View an existing privacy zone

1) In the **Privacy Zones** menu, use ▲ and ▼ to highlight **Zone Number**, then use ▶.

2) The cursor moves to the right-hand column, next to a privacy zone number. Use ▲ and ▼ to change the privacy zone number. Press ▶ to confirm your choice.

3) Now use ▼ to highlight **View Zone**, then press **ENTER**. The privacy zone you have chosen will now be shown on screen.

Delete an existing privacy zone

1) In the **Privacy Zones** menu, use ▲ and ▼ to highlight **Zone Number**, and then use ▶.

2) The cursor moves to the right-hand column, next to a privacy zone number. Use ▲ and ▼ to change the privacy zone number.

3) When you find the privacy zone you wish to delete, press ▶. The cursor returns to the left-hand column.

4) Now use ▼ to highlight **Delete Zone**, and then use ▶.

5) A screen prompt (**Press Enter to Delete**) will appear. Press **ENTER** to delete the zone, or **ESC** to leave it in place.

6 THE RECORDER

Before disconnecting the recorder, refer to section 6.2 Disconnecting the recorder **below.**

6.1 OVERVIEW

With the recorder attached you can capture and keep the 360° field of view of the camera **continuously** (i.e. 24 hours a day), according to a **schedule** (programming the times when it records data every day, or on selected days) or in response to an **event** (see below). What makes this device unique is that *the whole area covered by the camera is recorded at high resolution*. In effect this means you can go to any recorded point in time and use PTZ to check areas that might not have been seen by operators – or recorded on conventional video or DVRs – at that time.

Because the information is stored in high resolution, it means that you can go back in time and carry out retrospective optical equivalent zooming as well. Perform a zoom operation on previously recorded data at up to approximately 4x zoom. The camera does not have to interpolate or "guess" information – it knows because it has captured it!

The recorder will also respond to an **event**, such as an external alarm or an internal motion detection alarm, if you set it to do so. It can, for instance, preserve high quality recordings of the camera's output not only during an alarm, but also for as much as 30 seconds before the alarm was triggered and after it was shut off[3]. If the camera has been programmed to respond to an event, this takes priority over any continuous recording settings. You can choose the frame rate and image quality of both continuous recordings and event recordings. Each can be configured separately.

In addition, **the recorder will record the entire field of view even when you are playing back**.

During the setup process the camera will indicate how much data you can store on the recorder's hard drive at the frame rate and quality settings you have chosen. Even if you record continuously in good lighting at the highest quality settings you should be able to store at least four to five days of data. With intelligent use of scheduling, quality settings and event-based recording you can extend this to several weeks or months depending on your chosen settings. Once the drive is full, the recorder will begin to overwrite the oldest data. You can also choose to protect recordings that are particularly important and these will not be deleted.

TIP:

If you wish to extend recording duration, consider reducing the frame rate and quality for continuous recording and setting all events (external and motion detection) to record at the highest frame rate and quality. (See **6.4.2 Event-based Recording**.) By using the pre-event and post-event buffers you can ensure everything of importance is recorded, while keeping as much disk capacity as possible.

CAUTION:

Whilst playing back recorded data will not stop continuous recording nor prevent the recorder from recording events triggered by an external alarm, it will temporarily disable the recorder's response to internal alarms triggered, e.g. by motion detection.

[3] The duration of pre- and post-alarm may be slightly less in very low lighting conditions or heavily trafficked areas.

6.2 DISCONNECTING THE RECORDER

WARNING:

You must follow the correct sequence when **disconnecting** or **powering down** the recorder. If the unit is recording or playing back, the power connector and Hi-Res Video connection between the camera and recorder **must not be removed**.

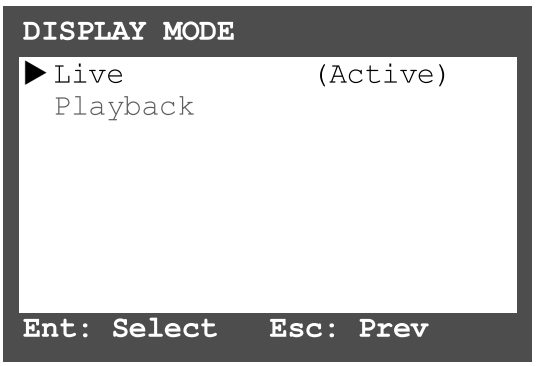
Failure to observe the correct procedure will invalidate the warranty (power cuts and black-outs excepted).

Refer to **Shutting down the Recorder** on page 74.

6.3 SWITCHING BETWEEN LIVE AND RECORDED VIEWS

1) In the main **`Recorder`** menu, use ▲▼ to go to **`Display Mode`** then use ▶. This will take you to a new screen (right).

2) Normally the camera operates in **`Live`** mode, showing the scene in the camera's field of view as it is at the moment. To play back recorded material, use ▲▼ to go to **`Playback`**, and then Press ▶ to confirm your choice. Finally press **MENU** to leave the menu system and show the playback interface.



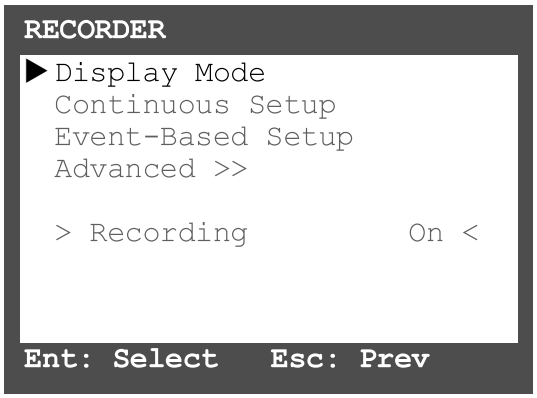
3) Alternatively, when not in menus, use the **PLAYBACK/LIVE** key to toggle between the normal (live) camera view and the playback screen. If the menu password is active (see section **4.1.6 Menu Password**) you will be prompted for the password when changing from Live to Playback.

Note: If the camera has been set for continuous or scheduled recording, this will continue even when you are playing back recorded data. The system can record and play back at the same time, with no loss of data. Note, however, that event based recording will be disabled whilst playing back.

6.4 CONFIGURING THE RECORDER

Note: Most menu items are only available when the recorder is powered up, connected and recording. If the recorder has been shutdown or disconnected then only a few of the menu options described in this section will be available.

In the main menu, use ▲▼ to go to **Recorder** and then use ▶. This will open the main **Recorder** menu. Here you can:



- Set the display mode (either **Live**, to see what is being recorded, or **Playback**, to see previously recorded material).
- Set up how the recorder will operate during normal (continuous) recording.
- Set up how the recorder will respond to events such as an external or internal alarm.
- Set other, Advanced options (see section **6.5 Advanced options**)

Below the menu items is the **Recording** display. This always shows you whether data is being recorded (**On**) or not (**Off**).

6.4.1 CONTINUOUS RECORDING

Continuous recording can be **On**, **Off** or **Scheduled**. If it is **On** data is recorded 24 hours a day, every day. If it is **Off**, no recording will take place – unless you set up the recorder to record based on events (see event-based recording below). If you choose **Scheduled** you will need to set times and days using the **Set Schedule** option (see **Schedule motion detection/tracking** on page 59 to see how to program schedules).

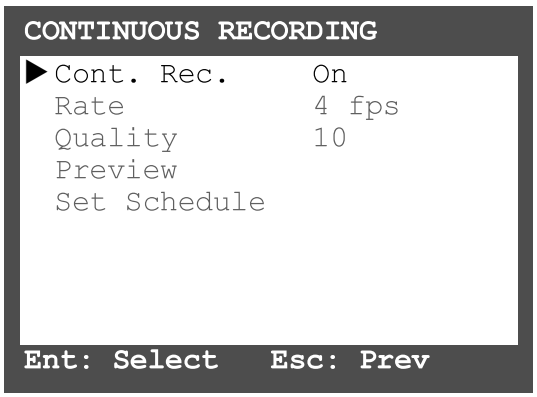
Note: if you set the recorder to scheduled recording, it will not record anything by default – you must define the schedule.

The quality of your recorded data depends on the **Frame Rate** and **Quality** settings. You can see what it will look like by selecting **Preview**.

Setup

1) In the **Recorder** menu, use ▲▼ to go to **Continuous Setup** and then use ▶.

2) In the **Continuous Recording** menu (right) use ▲▼ to go to **Cont. Rec.** then use ▶ and ▲▼ to set continuous recording to **On**, **Off**, or **Scheduled**. Press ▶ to confirm your choice.



Frame rate

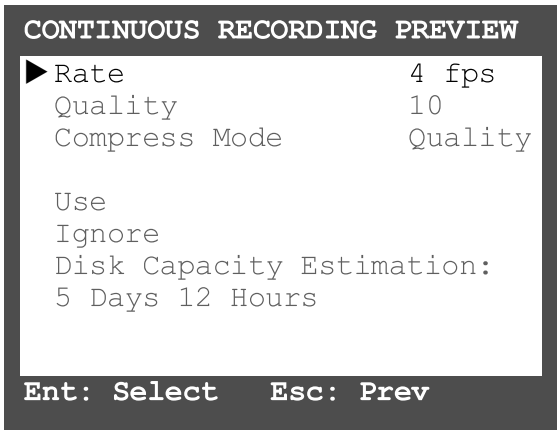
Use ▲▼ to go to **Rate** then use ▶ and ▲▼ to set the recording rate in frames per second. Choose between 1, 2 and 4 frames per second. Higher frame rates will obviously record more of what takes place within the camera's full field of view. Press ▶ to confirm your choice.

Quality

Use ▲▼ to go to **Quality** then use ▶ and ▲▼ to set the image quality of your stored recording, ranging from **1** (least detail) to **10** (most detail). Press ▶ to confirm your choice. To verify if the quality setting is enough for your purpose, use **Preview** below.

Preview

When you have set the frame rate and quality you can preview how your recording will look. The preview page also makes the advanced **Compress Mode** setting available, which you can change if required (see below). Use ▲▼ to go to **Preview**, then use ▶. This will take you to a new screen (right). This shows the appearance of a recording made with the settings you have chosen.



The display at the foot of the screen shows how much data the disk can store with these settings in place. As a general guide you can store about 4-5 days of data at the best possible quality. You can store much more data by using lower frame rates and/or quality settings.

To see the precise effect of changing these settings, use ▲▼ to select **Rate**, **Quality** or **Compress Mode** on this screen, then press ▶. Use ▲▼ to change the values shown and **ENTER** to confirm your choice. The camera will show its output at the settings you have chosen. It will also recalculate the disk capacity and display the new figure after a few moments.

If you wish to use your new settings, use ▲▼ to select **Use** and then press **ENTER**. This will take you back to the previous menu, and change the recorder settings to the new ones you have chosen. Otherwise press **ESC**, or use ▲▼ to select **Ignore** and then press **ENTER**. This will take you back to the previous menu without changing the recorder settings.

TIP:

If you wish to change the camera position during this procedure (e.g. to see how someone's face might look in close-up) press **FAR** to enter PTZ mode and move the camera as you wish. Press **FAR** again to re-enter the preview menu (e.g. if you wish to alter the **Rate** , **Quality** and **Compress Mode** settings).

Schedule recordings

You can extend recording durations by setting the days, and the times of day, when you want continuous recordings to be made. Use ▲▼ to select **Set Schedule** then use ▶ to go to the next screen. Look at **Schedule motion detection/tracking** on page 59 to see how you can program schedules.

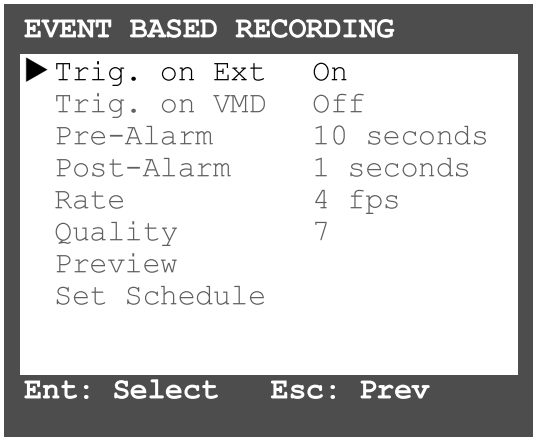
6.4.2 EVENT-BASED RECORDING

If the camera has been set to record events, it will do so even if continuous recording has been turned off. You can choose which events to record, and how much data before and after each event you want to store on the disk.

Setup

1) In the **Recorder** menu, use ▲▼ to go to **Event-Based Setup** and then use ▶.

2) Use ▲▼ to go to **Trig. on Ext** then use ▶ and ▲▼ to set how the camera will respond to an external alarm. Choose **On** if you want the recorder to operate whenever an external alarm is triggered. Choose **Off** if you do not want recordings of external alarm incidents. Choose **Scheduled** if you only want recordings of external alarms at particular times and/or on particular days. If you choose **Scheduled** you will need to set times and days using the **Set Schedule** option (look at **Schedule** motion detection/tracking on page 59 to see how to program schedules).



3) Press ▶ to confirm your choice.

4) Set up how the recorder responds to a motion detection alarm in the same way, using ▲▼ to go to **Trig. on VMD** then ▶ and ▲▼ to set the response to **On**, **Off** or **Scheduled**. Press ▶ to confirm your choice.

Pre-alarm and post-alarm settings

The recorder can also preserve up to 30 seconds of data from before the moment an alarm is triggered, and up to 30 seconds of data after the alarm is cancelled. In very low lighting conditions or very busy scenes you may get slightly less than 30 seconds. If you have chosen a higher frame rate for event-based recordings, this helps to ensure that you have the best possible view of events leading up to and following the incident that triggered the alarm. This may help to establish exactly what prompted the alarm, and why the alarm stopped.

To change these settings use ▲▼ to go to **Pre-Alarm** or **Post-Alarm**, then press ▶ and ▲▼ to choose the recording time you want. Press **ENTER** to set the time.

Note: whilst the recorder does not have the ability to increase the quality of the images stored in the pre-alarm buffer, it can increase the frame rate, so when an event happens, even the previous 30 seconds will be recorded at the event-based frame rate.

Frame rate

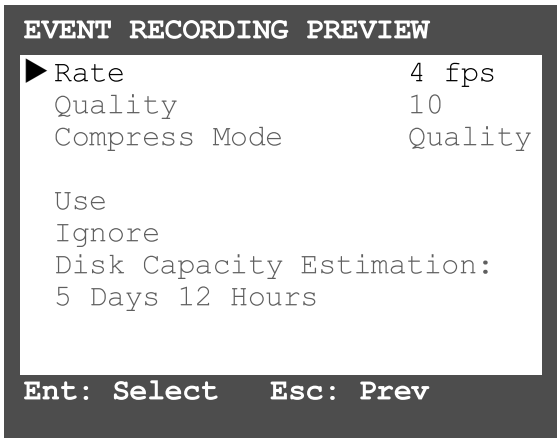
Use ▲▼ to go to **Rate** then use ▶ and ▲▼ to set the recording rate in frames per second. Choose between 1, 2 and 4 frames per second. Higher frame rates will obviously record more of what takes place within the camera's full field of view. Press ▶ to confirm your choice.

Quality

Use ▲▼ to go to **Quality** then use ▶ and ▲▼ to set the quality of your stored recording, ranging from **1** (least detail) to **10** (most detail). Press ▶ to confirm your choice.

Preview

When you have set the frame rate and quality you can see how your recording will look. Use ▲▼ to go to **Preview**, then use ▶. This will take you to a new screen (right). This simulates the appearance of a recording made with the settings you have chosen.



The display at the foot of the screen shows how much material the disk can store with these settings in place. However, the calculation assumes that *all* your recordings will be made at these settings. If you have programmed continuous recording as well, this will normally be set to a lower frame rate and/or lower quality, allowing far more data to be stored on the disk.

To see the precise effect of changing these settings, use ▲▼ to select **Rate**, **Quality** or **Compress Mode** on this screen, then press ▶. Use ▲▼ to change the values shown and **ENTER** to confirm your choice. The camera will simulate its output at the settings you have chosen. It will also recalculate the disk capacity and display the new figure after a few moments.

If you wish to use your new settings, use ▲▼ to select **Use** and then press **ENTER**. This will take you back to the previous menu, and change the recorder settings to the new ones you have chosen. Otherwise press **ESC** or use ▲▼ to select **Ignore** and then press **ENTER**. This will take you back to the previous menu without changing the recorder settings.

TIP:

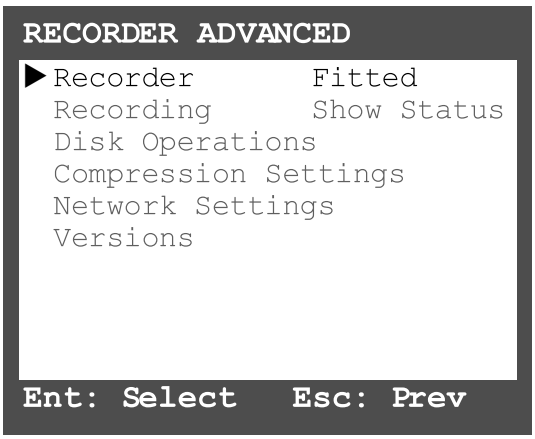
If you wish to change the camera position (e.g. to see how someone's face might look in close-up) press **FAR** to enter PTZ mode and move the camera as you wish. Press **FAR** again to re-enter the preview menu (e.g. if you want to alter the **Rate**, **Quality** and **Compress Mode** settings).

Schedule recordings

You can make more economical use of the recorder by setting the days, and the times of day, when you want event-based recordings to be made. Use ▲▼ to select **Set Schedule** then use ▶ to go to the next screen. Look at **Schedule motion detection/tracking** on page 59 to see how to program schedules.

6.5 ADVANCED OPTIONS

This menu gives you access to additional options that you may need to maintain and service the recorder.



To change advanced options, use ▲ and ▼ to highlight **Advanced >>** in the **Recorder** menu, then use ▶ to move to the next menu (right).

In this menu you can:

- Specify if a recorder is supposed to be fitted or not.
- Choose whether or not to show the Recording Status on screen.
- Use advanced disk operations, such as clearing the disk, formatting the disk and so on.
- Set the compression mode (to **Quality**, to ensure the best possible image quality on playback, or to **Size**, if you need to conserve space on the storage disk). You can also enable/disable a noise filter here.
- Edit network settings and activate NTP time support.
- Check software and hardware versions.

Recorder

This option lets you specify whether or not a recorder is supposed to be connected to the camera. If you choose **Fitted**, and the recorder is not correctly connected, the camera will warn you of the problem (the camera will warn you visually and, optionally, via the alarm output of the camera; see **Recorder Fault** on page 41). If you need to disconnect the recorder – perhaps to connect it to a different camera – then you can choose **Not Fitted** to prevent unnecessary warnings. If you choose **Not Fitted** when the recorder is, in fact, fitted again in the future, it will automatically correct this setting back to **Fitted**. To use this option:

1) Use ▲▼ to go to **Recorder** and then press ▶.

2) Use ▲▼ to select either **Fitted** or **Not Fitted**, and press ▶ to confirm, or press **ESC** to return to the previous menu.

Recorder status display

When a recording is being made you will normally see **REC** in red at the top right-hand corner of your monitor. You can choose to turn this indication on or off.

1) In the **Recorder** menu, use ▲▼ to go to **Recording** and then use ▶.

2) Use ▲▼ to choose either **Show Status** or **No Status**. Press ▶ to confirm your choice.

Note: recorder warnings and errors will always be shown on screen regardless of this setting.

6.5.1 DISK OPERATIONS

If the data on the recorder somehow becomes corrupted – e.g., because the recorder suffered a fall from a significant height or you need to move the recorder to another camera or disconnect it altogether, then the disk maintenance operations offered in this menu will be very useful.

Naturally, the recorder will not record anything whilst any of the below operations are being carried out.

Check Disk

Use this option if you suspect that data on the recorder's hard drive has become corrupted. It will check the integrity of the files on the disk, and ensure that the recorder avoids using any segments on the hard drive that may be damaged. **Note:** this operation can take several hours.

1) To check the disk, use ▲▼ to go to **`Check disk`** then ▶ to go to the next screen. Once you have read the message, you need to indicate whether you wish to go ahead with the check disk operation.

2) The default response is **`No`**: press **ESC** to return to the previous menu (and cancel the check disk operation) or use ▲▼ to choose **`Yes`**, then press **ENTER** to confirm.

3) After a few moments the camera will display a message saying **`Recorder removed`**. The recorder will now check its disk. This will take around 6 hours for the 400GB recorder version.

4) Once the check disk has completed, the recorder will restart; approximately two minutes later you will see another message saying **`Recorder Detected`**.

5) The disk has now been checked and is ready to record new data.

Repair Database

If you experience a problem whereby the timeline seems to be empty, or that recordings are shown on the timeline that you cannot access / play, you can restore the recordings by using this option.

Note: due to the inherent nature of the repair database process (the database is assumed to be wrong and is erased), some information cannot be recovered. Therefore, events previously shown on the timeline (such as a restart or a gap in the recording) will be shown as time synchronisation marks after the process has completed.

1) In the **`Disk Operations`** menu, use ▲▼ to go to **`Repair Database`** and then press ▶ to go to the next screen.

2) Once you have read the message, you need to indicate whether you wish to go ahead with the repair database operation.

3) The default response is **`No`**: press **ESC** to return to the previous menu (and cancel the repair database operation) or use ▲▼ to choose **`Yes`**, then press **ENTER** to confirm.

4) The **`Recorder removed`** message will appear in the middle of the screen.

5) Messages at the top right of the screen will report progress on analyzing the hard drive. When analysis is complete the message **`Recorder starting`** will appear, followed by **`REC`** appearing in the top right hand corner (assuming you have **`Recording`** set to **`Show Status`**, see page 72 and that you have set the recorder to record).

Format disk

This option will erase all data from the disk and leave it completely free for new recordings. **Note:** this can take several hours as the recorder will perform a complete format of the entire drive. If you just want to erase the recordings, use **Delete All Recordings** (below) instead as this is much faster.

1) To format the disk, use ▲▼ to go to **`Format Disk`** then ▶ to go to the next screen. Once you have read the message, you need to indicate if you wish to carry out the format disk operation.

2) The default response is **`No`**: press **ESC** to return to the previous menu (and cancel the format disk operation) or use ▲▼ to choose **`Yes`**, then press **ENTER** to confirm.

3) After a few moments the camera will display a message saying **`Recorder removed`**. Messages at the top right of the screen will report progress on formatting the hard drive.

4) Once the recorder has finished formatting the drive you will eventually see the **`REC`** icon in the top right (assuming you have **`Recording`** set to **`Show Status`**, see page 72 and that you have set the recorder to record).

5) The recorder has completed formatting the drive and is recording new data.

Restarting the Recorder

If for any reason you need to restart the recorder, e.g., after having performed a shut down (see below), you can restart the recording using this menu option.

1) Use ▲▼ to go to **`Restart Recorder`** then ▶ to go to the next screen. Once you have read the message, you need to indicate if you wish to carry out the restart operation.

2) The default response is **`No`**: press **ESC** to return to the previous menu (and cancel the restart operation) or use ▼ to select **`Yes`** and press **ENTER** to confirm.

3) After a few moments the camera will display a message in the top right hand corner saying **`Restarting the recorder`**. Allow a minute or so for the recorder to restart. Initially you will see the message **`Rec. Missing`**.

4) After approximately another 30 seconds to one minute you will see progress messages in the top right hand corner as the recorder carries out its self test and then another message saying **`Recorder Detected`** in the middle of the screen.

5) Finally, you will see the **`REC`** icon appearing in the top right hand corner (assuming you have **`Recording`** set to **`Show Status`**, see page 72, and that you have set the recorder to record). The recorder has restarted and is now recording.

Shutting down the Recorder

You **must** shut down the recorder if you need to disconnect it or move it to a new location. Doing this will ensure that the drive is not damaged during the move.

To **shut down** the recorder:

1) In the **`Disk Operations`** menu, use ▲▼ to go to **`Shut Down Recorder`** and then press ▶ to go to the next screen.

2) Once you have read the message, you need to indicate whether you wish to go ahead with the shut down operation.

3) The default response is **`No`**: press **ESC** to return to the previous menu (and cancel the shut down operation) or use ▼ to choose **`Yes`**, then press **ENTER** to confirm.

4) The message **Recorder removed** appears on screen. At the top right you will then see the status messages showing the progress of shutting down. When you see the message **It is now safe to power down the recorder**, you can remove the power.

Delete All Recordings

This option is much faster than **Format Disk** as it will only delete the recordings rather than physically formatting the drive. **Note:** this operation logically deletes the information from the drive rather than physically overwriting it. If you need to physically erase the recordings, you should use **Format Disk** instead – although this takes much longer.

1) To erase all recordings, use ▲▼ to go to **Delete All Recordings** then ▶ to go to the next screen. Once you have read the message, you need to indicate if you wish to go ahead with the delete operation.

2) The default response is **No**: press **ESC** to return to the previous menu (and cancel the delete operation) or use ▲▼ to choose **Yes**, then press **ENTER** to confirm.

3) The camera will display a message saying **Recorder removed**. In the top right hand corner you will see messages showing the progress of the deletion.

4) Once all recordings have been cleared the recorder will restart. Further progress messages will be displayed followed by the message saying **Recorder Detected**.

5) The recorder is now ready to record new data.

6.5.2 COMPRESSION SETTINGS

Compress Mode

Use this option to choose the way in which the recorder stores the recordings it has made. There are two options available: **Quality** and **Size**.

Under normal circumstances the recorder will record at the desired quality setting for approximately the indicated recording duration, as shown by the disk estimator in the preview mode (see page 69). However, under unusually poor lighting conditions or very highly trafficked areas, the recordings require more information to be stored in order to capture the entire scene at the desired quality.

This can have two effects: either the amount of recording stored is increased but this reduces the overall amount of recording duration, **or** the recording duration can be maintained but the amount of recording stored is capped, resulting in a temporary lowering of the quality desired.

This setting allows you to choose which of the above options the camera uses. Hence you can decide if quality of recording is more important to you (select **Quality**) or recording duration is more important (select **Size**).

1) In the **Advanced** menu, use ▲▼ to go to **Compression Settings** and then use ▶ to go to the next screen.

2) Use ▲▼ to select **Compress Mode**. Press ▶ to move to the options.

3) Use ▲▼ to choose either **Quality** or **Size**. Press ▶ to confirm your choice.

Noise Filter

Digital sensors inherently become noisy under certain lighting conditions (e.g., very low light). The recorder employs a noise filter that can be turned on to combat noise produced as a result of these conditions. Images will appear smoother and less noisy. However, if you wish you may turn the noise filter off to preserve the original images as seen by the camera. The noise filter is turned on by default.

1) In the **Advanced** menu, use ▲▼ to go to **Compression Settings** and then use ▶ to go to the next screen.

2) Use ▲▼ to select **Noise Filter**. Press ▶ to move to the options.

3) Use ▲▼ to choose either **On** or **Off**. Press ▶ to confirm your choice.

6.5.3 NETWORK SETTINGS

To check or alter the recorder's network settings and configure or enable NTP (network time protocol) support, use the Network Settings menu. To get to this menu, navigate to the **Recorder Advanced** menu and use ▲▼ go to **Network Settings** then use ▶ to go to the next screen.

The recorder has an Ethernet port which allows you to connect it to your local Ethernet network. The default IP address of the recorder is **192.168.0.198** which assumes you are using the standard IP addresses reserved for private networks.

To use some other address range or integrate with a DHCP server, change the recorder's network settings using this menu page.

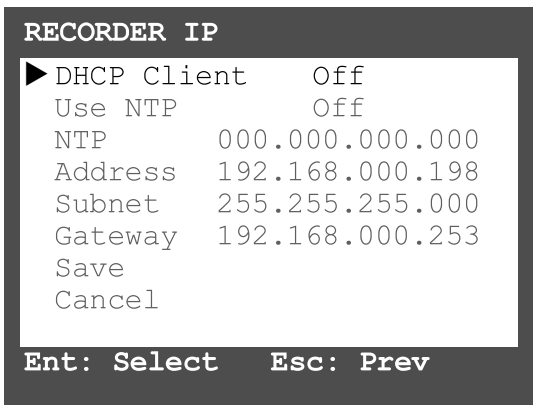
To configure the recorder to acquire its network settings from your DHCP server, use ▲▼ to go to **DHCP Client** then press ▶ and use ▲▼ to switch it **On**. Press ▶ to confirm. If you wish to manually configure the recorder, set **DHCP Client** to **Off** and then enter the IP addresses (see below).

The recorder also supports NTP. If you have a local NTP server, or use an NTP server on the Internet (and your local Ethernet network provides access to the Internet) then the recorder can also use this NTP server to set it's clock. The recorder will also communicate with the camera and synchronise the camera's time to the NTP server. **Note:** when NTP support is turned on, you will not be able to change the date and time manually – you must first turn NTP support off.

To activate NTP support, use ▲▼ to go to **Use NTP** then press ▶ and use ▲▼ to switch it **On**. Press ▶ to confirm. To turn it off, set **Use NTP** to **Off**.

NTP is the IP address of the NTP server, from which the recorder will obtain the time and date information.

To change any of the following IP addresses, select them using ▲▼, then press ▶ until the number you wish to change is highlighted and use ▲▼ to change it. Press ▶ to confirm. Continue to press ▶ until the cursor is back at the left edge of the screen.



The following menu items (**Address**, **Subnet** and **Gateway**) only have to be set if you are not using DHCP (assuming your DHCP server provides this information):

Address is the IP address of the recorder itself, which must be unique within your Ethernet network.

Subnet is the subnet mask, which must be the same as that defined for your Ethernet network and for other devices on the network.

Gateway is the IP address of your Ethernet network's gateway to the outside world.

To save your settings use ▼ to highlight **Save** (bottom of screen), and press ▶ to confirm. The message **Saving changes**… will appear and you will be returned to the previous menu page. If you have turned NTP on, the camera will attempt to connect to the NTP server. If it is unable to do so, you will see the message **Error Starting NTP** after a short while.

To exit without saving, use ▼ to highlight **Cancel** and press ▶ to confirm. You will be taken back to the previous menu.

6.5.4 VERSIONS

Versions gives you a screen display showing the various version numbers of key software within the recorder. You will need this information if you are calling the service helpline (see page 4).

Use ▲ and ▼ to highlight **Advanced >>** in the **Recorder** menu, then ▶ to go to the next page. Use ▲ and ▼ to highlight **Versions** to display the version numbers.

6.6 PLAYING BACK RECORDED MATERIAL

6.6.1 THE PLAYBACK SCREEN

To enter the playback mode and show the playback user interface, simply press the **PLAYBACK/LIVE** key. If the menu password is active (see section **4.1.6 Menu Password**), you will be prompted to enter it here, unless you are already in the menu. If you are in the menu, you can alternatively use the **Display Mode** menu option, see section **6.3 Switching between live and recorded views**. You should then see a view similar to this on screen:

The interactive menu on the playback screen is divided into three areas: the **selector bar** at the top, the **timeline** in the centre and the **interactive status bar** at the bottom. Use ▲▼ to move between these three areas.

TIP:

The very first time you activate playback mode the timeline may appear to be blank for a few moments whilst it retrieves frames for display.

6.6.2 THE TIMELINE

In the centre of the playback user interface is the timeline.

To interact with the timeline use ▲ and ▼ to highlight the timeline (a white box will appear around the entire timeline).

You can move backwards along the timeline by moving the keyboard joystick left (◀) and forwards by moving the keyboard joystick to the right (▶). The camera will take about a second to find and display the new image.

To zoom out (so that, for example, you can find another day in the sequence) use ↺. To zoom into the display (e.g. to find a particular frame) use ↻. Twist slowly to make a small adjustment, quickly to make a larger one.

The timeline uses colour coding to help you find particular areas of interest:

- A pale cream area represents recorded material.
- A beige (darker cream) area represents a time period that has not been recorded.
- A pale blue area represents a part of the timeline that has been locked.
- A black vertical line marks the frame you are looking at.
- A red vertical line marks the frame currently being recorded.
- A pink area shows the pre-alarm buffer – these are the frames that will be recorded at your event frame rate and resolution before an event occurs.

Special colour codes are also used to indicate what happens when there are unusual events, such as changing the time or restarting the recorder:

- A green vertical line shows the point at which the clock was changed.
- Olive-shaded areas either side of the line show the total time discrepancy. When the clock changes (e.g. at the end of Summer Time / Daylight Savings) the timeline will show an olive-coloured area from 01.00 to 02.00, a green vertical line, and then a second olive-coloured area also labelled from 01.00 to 02.00. Even though there appear to be two recordings for the same time period, nothing is lost and everything is easily accessible.
- A yellow vertical line depicts when the recorder has been restarted for some reason.

Horizontal lines indicate the types of recording available to look at, which you can choose using **`Select`** on the selector bar.

- A dark blue line represents continuous recording.
- A red line represents an external alarm event
- A yellow line represents a motion detection alarm event
- A green line represents a museum mode alarm event.

The lower part of the timeline displays the time or date of the video you are watching.

The timeline is designed to give you a quick, easy to use graphical overview of anything that has been recorded.

6.6.3 THE SELECTOR BAR

Use ▲ and ▼ to highlight the selector bar (a white box will appear around one of the controls on the selector bar). To choose a function from the selector bar use ◀▶ to highlight it (the white box denotes the function currently selected) and then press **ENTER** to activate the function.

Event

Events, such as external alarms, motion detection alarms and museum mode alarms are depicted on the timeline as described in the previous section. To navigate quickly between events, select the "◀" symbol next to **`Event`** to choose an event earlier than the current time displayed on the timeline, and select the "▶" symbol to choose a later event, then press **ENTER**. Press **ENTER** again to choose the next event in the sequence.

Select

Once you have chosen an event, use the **Select** button to highlight that event (or continuous recording) on the timeline. A black frame will appear around the recording you have chosen. You can then use **Lock** (see below) to protect that recording from being erased. Press **ENTER** again to cycle between the events currently underneath the black vertical line on the timeline.

Lock

Note: locking a large recording (e.g., over a day's worth of recording) can take several minutes. Locking the entire timeline can take up to 30 minutes. **If you lock the entire timeline you will no longer be recording any new material!**

Note: the recorder employs a special file-system to enhance its performance, based on blocks of video. Hence, if you choose to lock a section of the recording it is quite normal for a bit of recording either side of the event or marked time to be locked as well.

To **lock** part of a **continuous recording**:

1) On the timeline, use ◀▶ to move the vertical black cursor to the point where you want your locked recording to start.

2) Use ▲ to move up to the selector bar.

3) Use ◀▶ to highlight 🔒 and then press **ENTER**.

4) Use ▼ to move down to the timeline, and use ◀▶ to move the cursor to the end point of your locked recording. The section you have selected will be highlighted in pink.

5) Use ▲ to move back up to the selector bar and ◀▶ to highlight 🔒 again. Press **ENTER** again. The chosen section on the timeline will change colour to a pale blue. When this happens, your sequence is locked.

To **unlock** part of a **continuous recording**:

1) On the timeline, move the vertical black cursor to the point where you want the unlocked section to start.

2) Use ◀▶ to highlight 🔓 and then press **ENTER**.

3) Use ▼ to move down to the timeline, and use ◀▶ to move the cursor to the end point of your unlocked recording. The section you have selected will be highlighted in pink.

4) Use ▲ to move back up to the selector bar and ◀▶ to highlight 🔓 again. Press **ENTER** again. When your chosen section of timeline returns to its normal pale cream colour, your sequence has been unlocked.

To **lock** an **event recording** or a complete **continuous recording**:

1) Use the **Select** button to choose an event or a continuous recording that you want to keep (so it will not be overwritten when the disk becomes full).

2) Then use ◀▶ to highlight 🔒 and press **ENTER** to select it. Your chosen item will now be protected from erasure.

To **unlock** an **event recording** or a complete **continuous recording**:

1) Simply select the event or continuous recording again and then select 🔓 and press **ENTER** to confirm.

Playback

The playback section of the selector bar includes the familiar playback operations, reading from left to right: fast reverse, fast forward, play backwards, play forwards, pause, single frame backwards and single frame forwards.

To select and activate a playback control, use the keyboard joystick ◀▶ controls to highlight the desired control and press **ENTER** to activate it. The current playback mode in operation is highlighted in green. If the video is paused, for example, the pause button will have a green background.

- Use **fast forward** and **fast reverse** to watch video at higher speeds. The playback speed is shown in the bottom right hand corner of the playback user interface (on the interactive status bar) as **`Playback:2x`** (for example for twice playback). Press **ENTER** again to increase the playback speed, all the way up to 32x either forwards or backwards. Note: to achieve higher speed playback, the recorder skips frames, rather than speeding up the output. Therefore if you want to implement retrospective features such as motion detection/tracking or museum mode, this is best done at normal speed (i.e., play forwards: **`Playback:1x`**).

- Use **play forwards** and **play backwards** to playback video at normal speed either forwards or backwards. The display on the interactive status bar (bottom right) will change to **`Playback:1x`**. **Note:** when playing backwards, only 1 frame per second will be shown, regardless of the number of frames per second that have been recorded. If you need access to a given frame when playing backwards, use single frame stepping described below.

- Use **pause** to pause the video playback. You can also use the **STILL** key to pause playback. The display on the interactive status bar (bottom right) will change to **`Playback 0x`**.

- Use **single frame forwards** and **single frame backwards** to advance and step backwards one frame with each activation of the feature.

PTZ mode (+)

- Choose this button to switch to PTZ mode (or you can use the **FAR** key), allowing you to explore a particular still frame, or PTZ around a moving sequence as though it was happening right now. Press **ESC** to return to the menu (or **GUI MODE** if you are using the Pelco keyboard).

Hide (_)

- Choose this button to temporarily hide the selector bar and the timeline display. This can be helpful if you are trying to look at something in the lower part of the picture. Press **ESC** to restore the hidden menu areas and re-enter the playback user interface.

Exit (✕)

- Choose this button to leave the playback menu and switch back to live mode. Alternatively just press **PLAYBACK/LIVE**.

6.6.4 THE INTERACTIVE STATUS BAR

The interactive status bar is the bottom part of the playback user interface, displaying the date and time of the currently viewed video and the current playback speed.

In addition to indicating the date and time of the currently viewed video, you can also use the status bar to select a date and time for playback.

If you want to select a date or time for playback use ◀▶ to select the date or the time (a selected item appears as white text) and then press **ENTER**. Alter the value using ▲▼ and then press **ENTER** again to confirm your choice and move on to the next element (e.g. from hours to minutes). Repeat for each element. When you press **ENTER** for the last time your changes will be accepted and if a recording exists at the time and date you have chosen, video will be shown at the current playback speed.

6.6.5 RETROSPECTIVE FEATURES

In addition to providing the ability to pan, tilt and zoom retrospectively anywhere within the 360 field of view, the camera / recorder combination also allows you to carry out any of the camera's features retrospectively.

For example, it is possible to carry out motion tracking and museum mode analysis after the fact. If something has gone missing or was stolen within the camera's field of view, simply go back in the recording to find the item, draw a motion detection region around the item, place the camera into motion tracking mode and press play. As soon as the camera notices someone interact with the motion detection region, it will alarm, activate the alarm output (if enabled), PTZ the VCAM to show and track the interaction. In short, the camera will do all of the detective work, leaving you free to do other things.

Note: motion detection / tracking / museum mode of the live image will cease when playing back. However, the camera will always be recording the live image even when you are playing back.

Presets, preset tours, learn tours, sectors, privacy zones, motion detection, motion tracking and museum mode can all be used retrospectively when playing back. Use them exactly as you would in live mode.

Note: privacy zones are not recorded. Privacy zones from the live mode are, however, applied to the playback video, maintaining any privacy issues. This does, however, allow you to remove privacy zones after the fact (assuming you know the password) just in case something vital to the investigation happened behind a privacy zone.

7 TROUBLESHOOTING

If the camera is not behaving as anticipated, try looking through this troubleshooting guide which might save you having to call technical support for help.

Problem	Possible explanations	Remedy
No blue light	No power or not enough power reaching the camera	Check power is being supplied; check that you are using correct AWG for power cable; check the voltage at the camera, whilst the camera is on and drawing power – you must see an absolute minimum of 11.5V.
Blue light is on, but not flashing	Too much or too little power, or camera is not functioning properly	Check cabling and AWG rating, then reset the camera
Blue light is flashing, but no picture	Not enough power to camera	Check AWG power cable rating and check the voltage at the camera, whilst the camera is on and drawing power – it must be at least 11.5V.
	Monitor not switched on.	Turn on the monitor.
	Monitor not plugged in.	Plug in the monitor.
	Monitor on, but switched to incorrect video input.	Switch the monitor to the correct input.
	Camera powered, but booting up.	Wait for camera to complete boot process (allow up to two minutes).
	Analogue video cables not connected / faulty.	Check cabling / try a different cable.

Problem	Possible explanations	Remedy
Light is flashing and picture is visible, but you have no control	Camera has not auto-sensed the keyboard yet	Move the joystick left and right several times and then try to control the camera again.
	Unsupported keyboard has been connected	Check that keyboard can output a supported protocol (i.e., Fastrax II, Pelco-D or Bosch Autodome).
	The screen does not accept PTZ input.	Press the **FAR** key repeatedly until a full screen VCAM appears. If, after 10 presses, the screen mode does not change, then something else is wrong.
	Keyboard not on / broken / wired incorrectly	Check keyboard power, installation, configuration and wiring (refer to keyboard manufacturer's manual).
	The wrong ID is selected, or the wrong output is being viewed.	Check that camera ID matches keyboard ID, and that you are viewing the correct ID.
Camera is on, producing a picture, but control is intermittent or "sluggish"	Camera DIP switches set incorrectly.	If you are using the camera in an RS485 network (i.e., RS485 wiring goes into the camera and then out again) check that DIP switch 3 is OFF. If the camera is the last camera in the RS485 chain (i.e., RS485 wiring goes into the camera but not out again) check that DIP switch 3 is ON. If the above does not solve the problem, also invert DIP switches 1 and 2 to their alternative position. ALWAYS LEAVE DIP SWITCH 4 OFF.

Problem	Possible explanations	Remedy
Camera menu doesn't appear Able to see camera output on screen; however, pressing the **MENU** key doesn't show the menu.	Pressing wrong key or not pressing key for long enough.	Check instructions to make sure the correct key is being pressed. Some keyboards need the **MENU** key to be pressed and held for a period of time (e.g., 3 seconds).
	Keyboard set to control a different camera ID.	As the camera has two individually controllable outputs, make sure the keyboard is set to control the right one. If unsure, try setting the keyboard to the other camera ID and press **MENU** again.
Menu controls do not work	Camera is in PTZ mode, not menu mode	Press **FAR** to restore menu mode.
Lighting is low, but camera doesn't go into night mode	Night mode not switched on.	In the **Picture Control** menu, set **Night Mode** to **Auto**
	Camera is in menu mode.	Press **MENU** to leave menu mode.
	Threshold value is set too low	In the **Picture Control** menu, set **Threshold** to a higher value.
Lighting is good, but camera goes into night mode anyway	Threshold value is set too high	In the **Picture Control** menu, set **Threshold** to a lower value.
Motion detection alarm is not working	Motion detection regions not created.	Create one or more motion detection regions using the **Motion Detection** menu.
	Motion detection turned off.	In the **Motion Detection** menu, select **Mode** and then choose the **Detect** option.
	Alarm Output not set	Set Alarm output

Problem	Possible explanations	Remedy
Motion tracking is not working	Motion detection regions not set up.	Create one or more motion detection regions using the **Motion Detection** menu.
	Motion tracking turned off.	In the **Motion Detection** menu, select **Mode** and then choose the **Track** option.
Camera responds very slowly	Focus Aid has been left switched on.	In the **Picture Control** menu, choose **Advanced**, then select **Focus Aid** and turn it **Off.**
Cannot play back recorded data or error message **Rec. missing**	Recorder is not connected, or not running.	Check connections to the camera and to the power supply and reconnect as required, **following the instructions in this manual and the installation manual very carefully**. When the recorder is back on line the **REC** message will appear at the top right of the screen (if enabled by the user)
Timeline is visible but recorder will not play back any recordings	Database may have become corrupted.	Use **Repair Database** in the recorder's **Advanced, Disk Operations** menu.
Timeline appears empty even though recordings have been made	Database may have become corrupted.	Use **Repair Database** in the recorder's **Advanced, Disk Operations** menu.
Continuous recording is not taking place	Recorder is currently scheduled not to record continuously	In the **Continuous Recording** menu, choose **Schedule** and then reset the schedule as required.
	Recorder has not been set to record continuously	In the **Continuous Recording** menu, set **Cont. Rec.** to **On** and use **Rate** and **Quality** to choose the frame rate and image quality you require.

Problem	Possible explanations	Remedy
Events not being recorded	Recorder has not been set to record events	In the **`Event Recording`** menu, set **`Cont. Rec.`** to **`On`** and use **`Rate`** and **`Quality`** to choose the frame rate and image quality you require.

8 KEYBOARD MAPS

8.1 FASTRAX II

Keyboard control	Assigned key
CAMERA	CAM
MENU	MENU
FAR	
NEAR	
▶	Joystick right
◀	Joystick left
▲	Joystick up
▼	Joystick down
↻	Joystick clockwise
↺	Joystick anticlockwise
OPEN	
CLOSE	
ENTER	ENTR
ESC	ESC
NUMBER KEY + PRESET	N + PRST
FN + NUMBER KEY + PRESET	N + CTRL-PRST
NUMBER KEY + TOUR	N + PTRN
NUMBER KEY + LEARN	N + TOUR
RESTORE	99 + ON
UNATTENDED MODE	98 + ON
FLIP	97 + ON
STILL	96 + ON
PLAYBACK/LIVE	SCAN

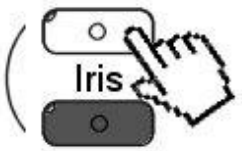
8.2 PELCO KBD300A

Note: the Pelco keyboard cannot accept numbers above 99. This will limit the number of presets that can be programmed from this keyboard.

Keyboard control	Assigned key
CAMERA	CAM
MENU	95 + PRESET (hold for at least 3 seconds)
FAR	FAR
NEAR	NEAR
▶	Joystick right
◀	Joystick left
▲	Joystick up
▼	Joystick down
↻	Joystick clockwise
↺	Joystick anticlockwise
ENTER and **OPEN**	OPEN
ESC and **CLOSE**	CLOSE
NUMBER KEY + **PRESET**	N + PRESET
FN + **NUMBER KEY** + **PRESET**	N + ON
NUMBER KEY + **TOUR**	N + PATTERN
NUMBER KEY + **LEARN**	N + PATTERN (hold for at least 3 seconds)
RESTORE	99 + PRESET (hold for at least 3 seconds)
UNATTENDED MODE	98 + PRESET (hold for at least 3 seconds)
FLIP	97 + PRESET (hold for at least 3 seconds)
STILL	96 + PRESET (hold for at least 3 seconds)
PLAYBACK/LIVE	94 + PRESET (hold for at least 3 seconds)
GUI MODE	93 + PRESET (hold for at least 3 seconds)

8.3 BOSCH AUTODOME

Note that this RS232-based controller requires a third-party RS232-RS485 converter.

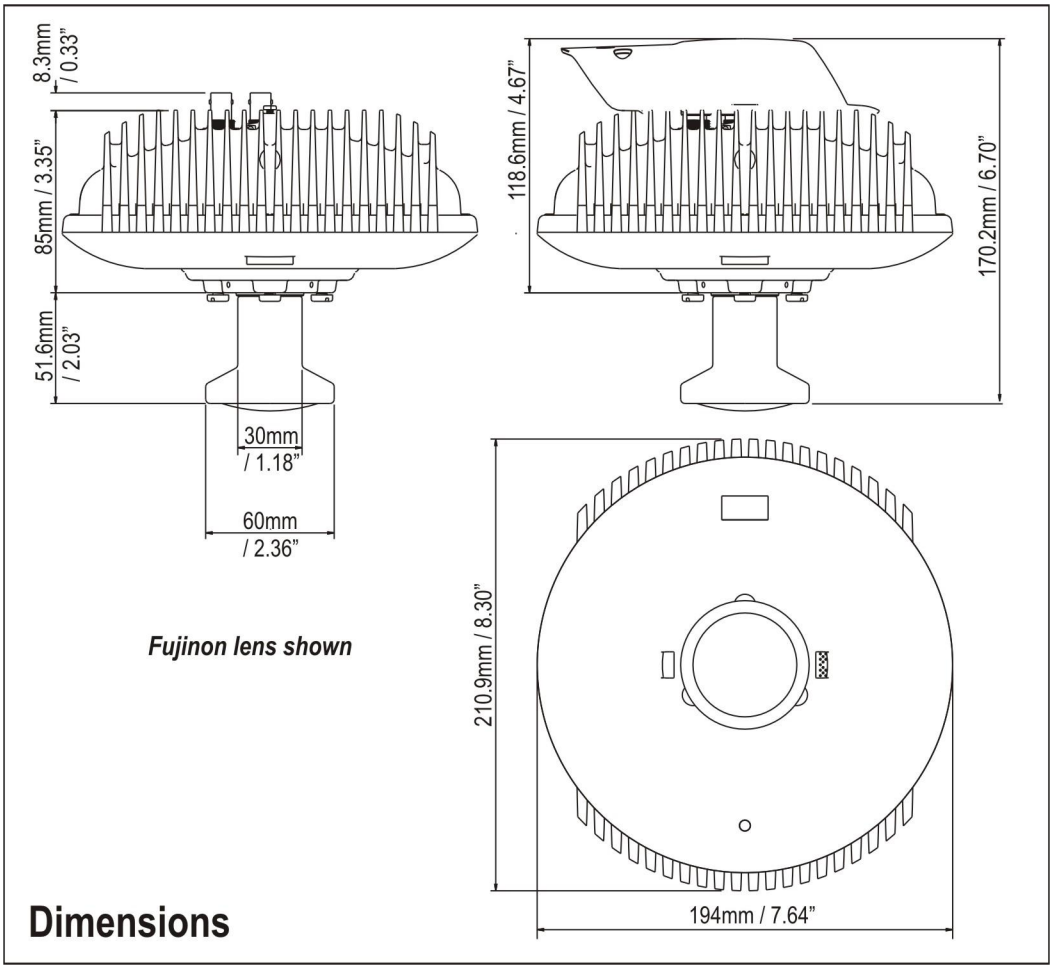
Keyboard control	Assigned key
CAMERA	Camera
MENU	Set + 95 + Enter
FAR	
NEAR	
▶	Joystick right
◀	Joystick left
▲	Joystick up
▼	Joystick down
↻	Joystick clockwise
↺	Joystick anticlockwise
ENTER and OPEN	
ESC and CLOSE	
NUMBER KEY + PRESET	Shot+ N + PRESET
FN + NUMBER KEY + PRESET	Set + N + Enter
NUMBER KEY + TOUR	On + N + Enter
NUMBER KEY + LEARN	Off + N + Enter
RESTORE	Set + 99 + Enter
UNATTENDED MODE	Set + 98 + Enter
FLIP	Set + 97 + Enter
STILL	Set + 96 + Enter
PLAYBACK/LIVE	Set + 94 + Enter
GUI MODE	Set + 93 + Enter

9 CAMERA SPECIFICATION

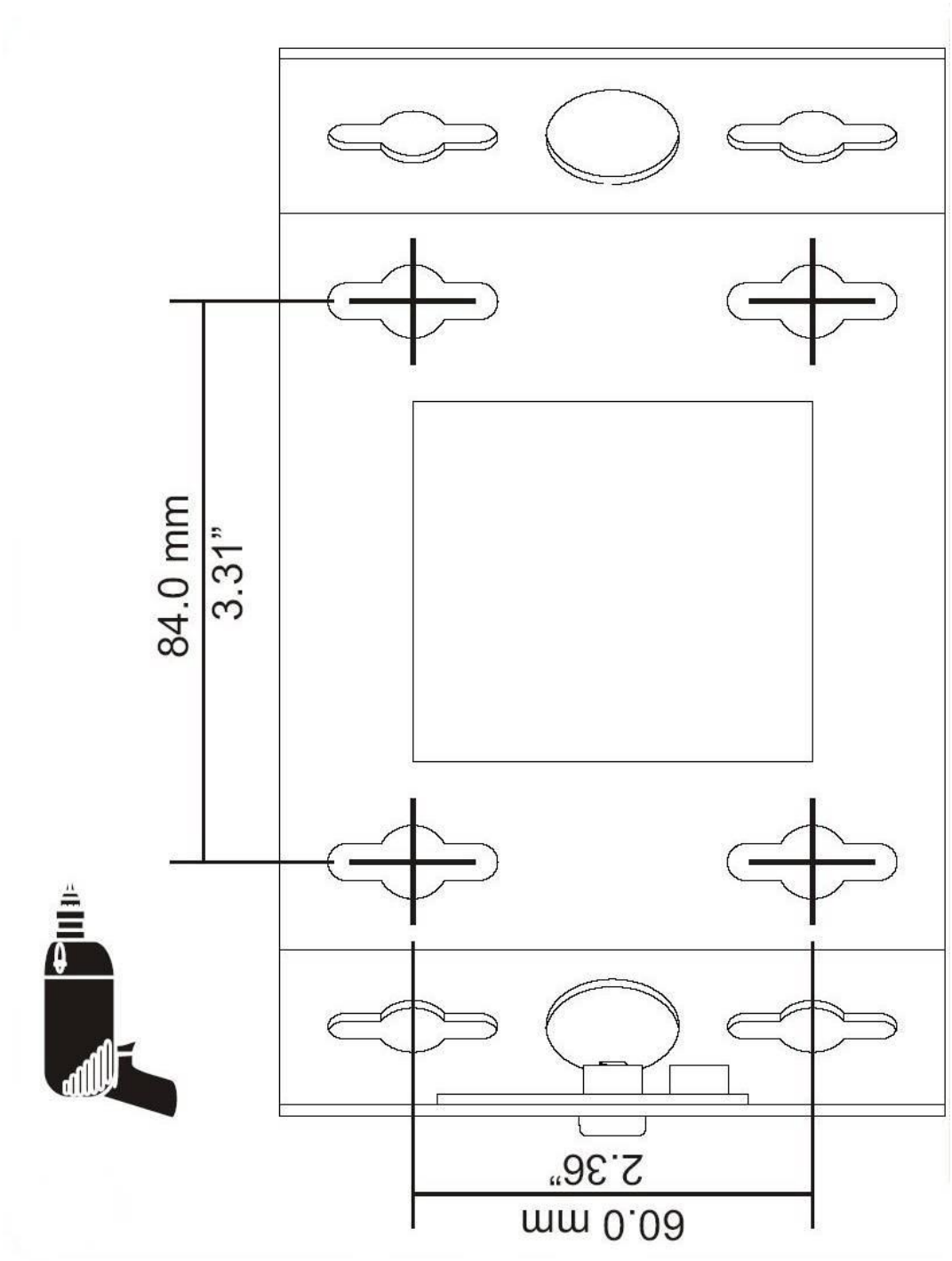
Sensor Resolution	3 megapixel (2048 x 1536)
Virtual cameras	4 fully independent ePTZ – full resolution including thumbnail
Frame rate	~12 frames per second
Motion detection and tracking	Variable sensitivity, selectable regions of interest
Video Output	2 x analogue 75 Ohm BNC coax, PAL / NTSC selectable
Control Protocol (Autosensing)	RS485: Fastrax II, Pelco-D. RS232[4]: Bosch Autodome
Alarm Inputs	4 Normally open or normally closed contact inputs
Alarm Output	1 Momentary or transparent, 30V (max) ½ Amp (max) 10W (max)
Power Supply (external)	11.5 – 16 VDC; cable 18-14 AWG
Weight	1.5kg
Sensor Responsivity	1.0V/Lux-sec (550nm)
Operating Temperature Range	0 – 40°C (32° to 104°F)
Storage Temperature Range	-10 – 60°C (14° to 140°F)
Lens – Fujinon	185° FOV, f-theta projection, 158° – 170° navigable by VCAMs
Processor	IMTERA ™ 3D Visual Processor Unit
Approvals	EMC CISPR Class A, FCC Class A, CE

Refer to Safety and Installation Manual for Recorder Specification

[4] Third-party RS232-RS485 converter required

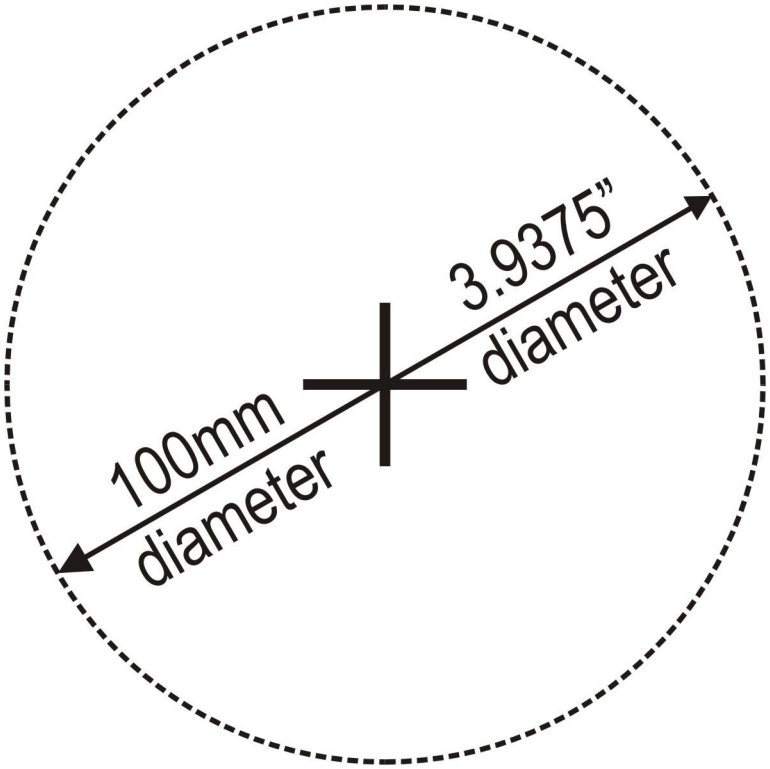

8.3mm / 0.33”
85mm / 3.35”
51.6mm / 2.03”
30mm / 1.18”
60mm / 2.36”
118.6mm / 4.67”
170.2mm / 6.70”
210.9mm / 8.30”
194mm / 7.64”
Fujinon lens shown
Dimensions

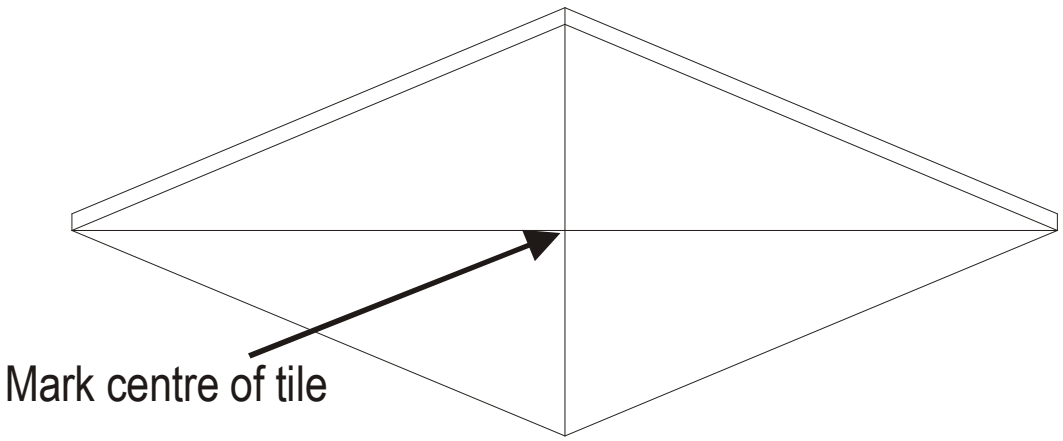
Wall-mount bracket template



Ceiling tile cutting template

Use the supplied cutting template to cut a 100mm/3.94in diameter hole in the centre of the ceiling tile.





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